PD-ABM-696

ISN-98882

Final Evaluation of the Appropriate Technology International Cooperative Agreement (ATI-III)

IQC Contract No. AEP-0085-1-00-3002-00
Delivery Order No. 19

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November 11, 1994

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A WORD OF EXPLANATION

This volume contains two related documents. The first is the final evaluation of the 1989-1994 Cooperative Agreement between Appropriate Technology International (ATI) of Washington, D.C., and the U.S. Agency for International Development. The evaluation was undertaken at the behest of USAID during late Summer 1994 by a team from Development Associates, Inc., and Development Alternatives, Inc. They were working under the Evaluation Indefinite Quantity Contract the two firms hold jointly from USAID.

The evaluation team's report made a number of judgments and recommendations based on their investigations, which included field trips to several ATI project sites. ATI, however, disagreed with the findings of the team and sought from USAID an opportunity for rebuttal. The Agency granted the request of ATI to prepare a response to the evaluation report. ATI subsequently presented USAID with a report of more than 165 pages. Without any alteration, this report has become the second document in the volume.

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PROLOGUE

This evaluation report is organized with a main report supported by separate annexes treating specific topics in greater detail, such as trip reports, a review of the proposed amendment to the cooperative agreement and other discrete pieces of work. The reader is encouraged to first review the Executive Summary, then go through the annexes and finally read the main report. While reading the main report, annexes might be kept readily available to refer back to from time to time.

The evaluation team wishes to thank the two development consulting firms which gave the team the opportunity to work together to complete this report. For many years the consultants have known of each other, paths have crossed from time to time, but never was there an opportunity to work together on a common goal.

Likewise, the team wishes to thank the staff of Appropriate Technology International - both here in Washington and overseas - for their assistance making this evaluation possible as well as to thank the AID/Washington officials who accompanied the team to Bolivia, Zimbabwe and Nepal for their support, encouragement and interest.

The opinions expressed herein are those of the evaluation team, together, and do not represent official views of Development Associates or Development Alternatives and less those of the Agency for International Development/Washington and/or its field missions.

LIST OF ACRONYMS

AID	-	The Agency for International Development/Washington
AIGACAA	-	Asociación Integral de Ganaderos de Camélidos de los Andes Altos
ANSAB	-	??
AT	-	Appropriate technology - the concept
ATI	-	Appropriate Technology International
CA	-	The Cooperative Agreement, also referred to as ATI-III
CAMARTEC	-	A model of hand operated oil press smaller than other models and sometimes favored by women operators. Designed initially by the Centre for Agricultural Mechanization and Rural Technology, Tanzania
CAPU	-	A larger hand operated oil press sometimes preferred by men
CFA	-	West African Francs, the money of French speaking West African countries. US$ 1.00 = CFA 540 approximately
CIDA	-	Canadian International Development Agency
COPROCA	-	Compania de Productos de Camélidos
CPSG	-	Central Program Support Grant, a better name for central bureau core support
DANIDA	-	Danish International Development Agency
Direct funding or leveraging	-	Fund raising activities resulting in revenue directly to ATI and passing through its accounting records
EIA	-	Environmental Impact Assessment
EOPS	-	End of Project Status Condition
FICAH	-	Food Industry Crusade Against Hunger
FPX	-	Producers and Exporters Association of Honduras
FY	-	Fiscal year
GB/R&D/EID	-	Global Bureau, Research and Development Division, Enterprise and Institutional Development Office
GMB	-	Zimbabwean Grain Marketing Board
HCN	-	Host country national
IEE	-	An Initial Environmental Examination
IFAD	-	International Fund for Agricultural Development
IMS	-	Impact Monitoring System, the system developed by ATI to monitor impact of project interventions
Indirect funding or leveraging	-	Fund raising activities resulting in revenue going to one of ATI's partners and <u>not</u> passing through ATI's accounting records
Instrumental leveraging	-	Same as indirect funding or leveraging
ITDG	-	Intermediate Technology Development Group - a precursor of ATI in the United Kingdom and currently a competitor in some instances

MIS	-	Management Information System, as opposed to the IMS, this is a system measuring <u>process</u> indicators and is a management tool
NGO	-	Non-governmental organization, a term applied to non-U.S. PVO's and other private development oriented organizations
PACD	-	Project Activity Completion Date (the ending date of a project)
PVO	-	Private and voluntary organization - a U.S. equivalent to the NGO
R&D	-	Research and development
RFP	-	Request for Proposal
TCN	-	Third country national
UNCDF	-	United Nations Capital Development Fund
UNDP	-	United Nations Development Program
UNDP/OPS	-	Office of Program Services of the UNDP, the entity negotiating and signing contracts
USAID	-	An overseas office or mission of the AID
VOPP	-	Village Oil Press Project, the Tanzania ATI effort
WID	-	Women in Development
WUSC	-	World University Service of Canada, ATI's implementing partner in Zimbabwe
ZOPP	-	The Zimbabwe Oil Press Project
Z$	-	Zimbabwean dollars

EXECUTIVE SUMMARY

A joint Development Associates/Development Alternatives team of four undertook to evaluate Appropriate Technology International (ATI) in the summer of 1994. Three of its members visited ATI programs in Bolivia, Senegal, Zimbabwe and Nepal, spending roughly a week in each of the four countries plus time at their headquarters in Washington. The fourth team member concentrated on budget and fiscal matters related to ATI's Washington headquarters operations.

The methodology employed in this evaluation was to compare what ATI has been mandated to do by AID, and what has actually occurred in field programs. Information was obtained from extensive reading of background materials, discussions with headquarters and field personnel, and field visits to projects and beneficiaries. Trip reports and extensive written analyses were prepared and are annexed hereto and referred to in the text of this report.

AID officers accompanied the three person field team to all stops except Senegal. Their views do not figure in the following report.

Local ATI staff in all countries were genial and cooperative at all times. USAID expatriate staffs, on the contrary, seemed neither to know nor to care much about what may appear to be another annoying centrally-funded projects. In Senegal, however, the only country visited where USAID is directly funding an ATI project, USAID local staff was much more knowledgeable about ATI's activities. In general, where field missions are not funding ATI projects, they maintain a hands-off posture.

I. APPROPRIATE TECHNOLOGY INTERNATIONAL - The Institution

ATI is one of a very few organizations whose mandate from inception is to work toward increasing the productivity and incomes of small producers through the application of technological improvements. The organization was established as a private non-profit (501(c)(3)) corporation in the District of Columbia in response to the House International Relations Committee initiative in Section 107 of the International Development and Food Assistance Act of 1975 (amending the Foreign Assistance Act of 1961). The legislation provided for up to $20.0 million over the period FY 1976 - 78 to support a private effort to promote the development and dissemination of technologies appropriate for developing countries.

ATI's current senior management responsible for implementing the Cooperative Agreement over the past five years is dynamic and leadership strives hard to have impact. ATI's home office is well managed and has been very successful at image building, developing project partnerships, and raising millions of dollars through leveraging for the development of the technologies it promotes. It has good accounting and financial management systems and is in compliance with Federal Regulations on these matters.

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Highest marks must be accorded ATI staff for its success in picking programmatically correct projects and developing project proposals for presentation to potential donor partners and in voluminous documentation. It is complying very well with its funding diversification and leveraging mandates under supplemental grants received for this purpose in addition to the ATI III Cooperative Agreement. ATI's choice of projects is thought through rationally. Selected projects are, in a word, appropriate, at least during the start-up period or the time that the evaluation team considers the pilot phase of developing commercially viable, sustainable technologies. But cumulative data from ATI reports show upward curves in project outputs achieved. But when quarterly sales are reviewed, the curve is quite flat and at very low numbers of sales for the level of resources invested.

ATI's overseas operations and its efforts to make the transition from the pilot phase of project development to commercial viability of promoted technologies are less effective. ATI selection of personnel has not kept up with its needs to improve its record on sustainability at the level of the individual technologies it promotes. Staff seem uncomfortable with their private sector business development role. Making the transition from good, technology-based pilot efforts to ones that will be viable and commercially sustainable requires creative, hands-on management with special skills that are not often very common in the NGO community. Instead of decentralizing and adjusting personnel in response to changing field needs that are more business development oriented than ever ATI continues to maintain a large Washington based staff, trying to overcome field level deficiencies through remote control.

The evaluators believe a better balance between the numbers of headquarters staff versus its overseas program staff (directly paid and responsible to ATI) is needed as a first step toward achieving the commercial sustainability objectives of ATI's projects.

The evaluation team understands ATI's attempts to control overseas costs, and develop permanent local impacts, part of the AID definition of sustainability. However, the team believes building local institutional and managerial capacity to help achieve this end is a better way than becoming operational. But this needs to be done carefully and can only be carried out effectively in projects when sufficient time is available and with proper staff selection, orientation, and training. If it is not done at the proper time with the proper inputs, neither the goals of commercial viability of the technologies themselves, nor the institutional capacity building goals, another facet of sustainability, will ultimately be achieved.

As a countermeasure to weak field offices, ATI Headquarters controls project implementation tightly from Washington. Most technological and project implementation decisions seem to be made in Washington or by the Washington staff on field trips in consultation with overseas staff.

An alternative is to hire more expensive, but seasoned professionals with more business and marketing acumen to head up projects abroad shifting the majority of project implementation decisions and activities overseas closer to where the action is. The result

a

will be increased overseas costs offset by reduction of Washington-based staff and associated overhead, improved project impact overseas, and a better ratio of Washington to field-based personnel. Local capacity building can progress rapidly through on-the-job training by expatriate advisors and through positioning ATI in an advisory role as opposed to a pro-active implementing role. What sense is there in trying to cut costs too much before the project is firmly on foot. A failed project is very costly.

II. THE CURRENT COOPERATIVE AGREEMENT (As Amended)

The language and structure in the amended agreement makes it difficult to monitor, confusing, and almost impossible to meaningfully report-on without maintaining a staff dedicated to accumulating voluminous quantities of numbers and other information to comply fully with the perceived informational needs of AID. The Schedule and Program Description are overlapping and incomplete in their essence at one level, but flooded with extraneous detail at another. Such detail is better dealt with outside the formal document.

Yet the Program Description, which should be more complete, doesn't really tell what the project objectives are, when, where, and how they should be accomplished, and, finally, how much of something is to be delivered. The protocol with the funding recipient's principal or core donor should clearly, and as simply as possible, spell out what it hopes to accomplish with the funding provided, thereby setting the reasonable framework upon which organizations can be evaluated and held accountable for achievements,

Deliverables in the CA and its most recent amendment are few. The five main or central purposes of the amended agreement don't have corresponding EOPS, purpose or output indicators. In terms of the indicators in the amendment, ATI has surpassed the leveraging targets already, and have turned-in the first IMS report on time. In terms of buy-ins or other AID (mission or central bureau) funding complementary to the CPSG, ATI has done relatively well, committing $3.1 million, approximately through June 30, 1994.

ATI began a five-year strategic planning (business plan) process in the early years of the CA. This seemingly has been dropped as no mention of the plan is made after the 1992 Annual Work Plan. Adopting a solid business planning and evaluation system for the whole organization and restructuring the CA to specific "projects" within ATI's overall program would seem to make sense if continued AID funding is approved.

Neither the 1993 Work Plan or the 1993 Annual Report reflect a careful planning and reporting process. The 1994 Work Plan, presented only in June 1994, is also lacking in quantified targets for many of the projects and activities. The mid-1994 report was not available to the evaluators. Items planned in the beginning are ignored in the end of the year report and both documents are difficult to read, compare and glean what is the real plan and what has really been accomplished. With nine sub-sectors, four phases, on-going and new business development, ATI reports on up to 72 different categories of activities - far too many to understand what's really going on.

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The impact indicators in the amendment are a mixture of impact and process indicators and trying to attribute CPSG (or core) resources to impact at the ultimate beneficiary level is inappropriate. While impact indicators report changes in human conditions, process indicators are tracked during project implementation and are more useful as a management tool than a gauge of impact. Talk of impact and process indicators without a clear project description establishing what is to be accomplished, where, when, how and at what cost is also inappropriate. Developing a good project planning, monitoring and reporting system as a MIS (in comparison to the IMS) to be used to evaluate individual, departmental and agency performance would seem to be a priority. This was recommended in the mid-term evaluation as well but seems to have been overlooked.

III. IMPACT AND EFFECTIVENESS OF THE ATI APPROACH AND DEVELOPMENT PARADIGM

In 1992 ATI systematized and formally presented its project identification and development strategy which it calls its Small Producer Development Paradigm. The central objectives of ATI's efforts in this mostly academic exercise are to increase impact on small producer productivity, incomes, and, numbers of people reached through a clear, well defined strategy. The Small Producer Development Paradigm has been applied for several years, now.

At the level of individual users of ATI's technologies, there are clearly positive impacts, they are better off, or at least believe they are, and, generally, people appreciate efforts on their behalf. The classes of small producers affected by ATI's work represent large numbers of people in specific countries and around the world. Theoretically, the potential for replication and diffusion and resultant impact on large numbers of low income people seems to exist, but over the years achieving impact through the introduction and commercialization of successful technologies has been illusive.

While most of ATI's activities are not specifically targeted at a particular gender, both men and women benefit - on average - about equally. ATI project documents, including project proposals, evaluations and implementation plans specifically address women issues and impacts on women. ATI makes a conscious effort to seek opportunities to involve women in all of the projects visited by the evaluation team and the recently launched IMS reports and tracks beneficiaries by gender, as do individual project reports. In one project visited, however, while the majority of economic activity and economic benefit are produced and received by women, these are minor beneficiaries of training and extension activities. In this one project at least, ATI should seek more aggressive approaches to reaching women in its training activities.

Low marks were accorded to ATI in achieving its objectives of introducing viable income and productivity enhancing products/technologies to the market. ATI, in reality, has yet to venture successfully beyond the pilot phase in any project. If ways could be found to curtail overhead and subsidy, and allow the production and distribution of technologies in the post-pilot stage of technology transfer to be market rather than project

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driven, ATI might speak of the sustainability of its technologies with more authority than it can today.

The different technologies ATI promoted over the past decade show no apparent sticking power, or on-going, permanent impacts on any segment of society. When an ATI project is completed and funding is no longer available the technology cannot be sustained because it has not reached commercial viability.

The concept that "Small is Beautiful" was used to describe the appropriate technology movement in a time when AT was thought to be the new paradigm for development. Unfortunately, this has not proved to be the case. Appropriate technology has not taken off. The evaluation team concludes it is because tools promoted by appropriate technology programs rarely can be disseminated without very large up-front project and technological development subsidies. Furthermore, the users of the technologies, in most cases, are low resource "beneficiaries" without disposable income who just cannot (or will not) afford the full un-subsidized cost of the tool. Subsidies might be reduced over time. However, some training and technical assistance subsidization may be needed indefinitely, but the disposable income issue will not go away easily.

The evaluation team finds ATI is failing in commercializing and spinning-off the manufacture and commercial dissemination of the technologies it develops. Projects are "pilot" forever and do not quite make it to the commercial and take-off phase. Heavy subsidization, while it may be necessary to introduce a new product, also masks the real commercial potential of the product. When subsidies are phased out, the real costs need to be covered by someone. If prices to the final purchaser must rise to meet the new cost structure of the manufacturer (or project), demand may fall to unprofitable levels or disappear, causing the product to be commercially non-viable, in turn, causing the business to fail.

In the pilot phases of its work, ATI has employed social pricing, e.g., artificially low prices, generous subsidies to commercial production and distribution and high overhead. In this price-suppressed condition, there apparently is no way to allow commercial interests to enter or market forces prevail/[1]. The incremental impacts that ATI seeks through its Small Producer Development Paradigm have yet to be realized.

Mindful of the fact that almost anyone having millions of dollars of subsidy can develop what appear to be temporarily "successful" pilot projects, ATI does just that. This has brought on two crisis questions of major proportions for ATI (there is some evidence

[1] ATI's control over pricing is done to ensure the technologies remain affordable to the poor and glitches in carrying out ATI's small producer development process in the field are kept to a minimum. This, of course, is in itself, a fundamental statement of ATI's philosophy, but it also is a clear problem for manufacturers, who are not currently making money with ATI promoted technologies. They appear to be agents of the project, producing when the projects say to and when the projects can pay. This establishes precedents for subsidized sustainability and not commercial viability. It is not what is normally understood as "private sector driven."

that the growing crisis is beginning to register). The second of these questions should concern AID even more than ATI. They are:

1. How long should an AID-financed organization continue to support or control successful pilot projects -- or projects that purport to be successful -- but which would vanish with their subsidies?

2. How far and how high should AID subsidies be allowed to run to finance appropriate technology for in effect a token number of poor farmers in any country?

The sustainability and subsidy issues at the level of individual technologies have turned out to be ATI's Achilles heel. Subsidies, by their very nature are finite. If subsidies must increase proportionately with the sale of each "tool" or appropriate technology product in order to increase coverage and impact, either continual financing shortages and other bottlenecks will exist or subsidies will have to increase radically as "scaling-up" occurs and coverage increases. This will continue to limit the possibilities for large scale dissemination and, in turn, the probability of reaching the millions of small producers ATI views as its target.

But the bigger issue relates to sustainability of the organization itself and its dependency (admittedly declining) on Federal funds to undertake its work. ATI simply cannot continue to bury its head in the sand when the issues of institutional self-sufficiency and sustainability are raised. Organizations that don't face-up to these issues are irresponsible. ATI must continue to seek alternate sources of financing, possibly from a membership and/or general fund-raising solicitations, corporate donors, endowments, etc. AID should aggressively encourage ATI to continue its successful funding diversification and continual AID support should be contingent on progress achieving much higher levels of non-Federal revenue.

IV. FINANCIAL INITIATIVES AT ATI

ATI shows its penchant for experimentation and creativity in the area of promoting financial instruments for small producers. It has worked variously with venture capital and small business credit models to finance small enterprises directly and leveraging to finance development projects through funding for itself (direct funding) or that is raised by ATI through the use of its own funds, but that passes though the books of a third organization (instrumental leveraging.)

ATI has been successful in putting together partnerships for joint development ventures using the funds provided it through AID's Leveraging Grants. Through a complementary grant to its Cooperative Agreement, AID embarked with ATI on a significant fund-raising effort to demonstrate the possibility of diversifying ATI's funding base away from complete dependency on core AID financing. The effect has also been to multiply funding available for projects from other bilateral and multilateral donors. ATI

must be credited for a job well done and achieving a high level of success in one of the primary objectives of the current Cooperative Agreement.

ATI has successfully raised over $2.7 million from two private sector energy-based companies using potential carbon reduction offset legislation to convince them to invest in a ruminant methane reduction program in India through improved diets for cattle using multi-nutrient, molasses-urea block licks. This is a major accomplishment and indicates private funding for the right project is available and further attests to the impact of the leveraging funds at ATI's disposal.

V. ATI's RESPONSIVENESS TO MID-TERM EVALUATION RECOMMENDATIONS

The 1992 mid-term evaluation contained between 48 and 81 recommendations. Sixty four of these recommendations were accepted by ATI while only six were disagreed with. Eight recommendations were really for AID and the U.S. Congress. Of the 64, ATI has made substantial progress on most. Those where disagreement occurred related to issues of financing and funding. ATI's response to encouragement it obtain increasing funding from non AID sources has been and continues to be a repeat of its assertion it is unique, special and has a Congressional mandate; in short, ATI continues to believe it has an entitlement to Federal funds.

An important recommendation that seems to have either been misunderstood or slipped through the cracks relates to operating year budgets, and establishing a project information system (MIS) to aid management in setting business goals and targets and then monitoring and evaluating performance, including financial and budgetary indicators.

The AID Project Evaluation Summary (PES), while acknowledging 48 recommendations were contained in the report, boiled these down to five "action decisions". The PES was signed in August 1993 by the AID evaluation officer and September 1993 by ATI, 10 months after the final mid-term report was submitted and more than a year after field work was completed. Of the five action decisions, three are still pending in this team's assessment (two-year extension, amend the CA, and agree on operational performance indicators), another (reporting format) has been completed but not implemented as it is part of the CA amendment. The final action decision (develop and test a new MIS) has not been implemented and is the subject of several paragraphs in the report that follows.

VII. ATI's CAPACITY TO ABSORB SUBSTANTIAL ADDITIONAL FUNDING

In terms of continued or increased AID financing for ATI, ATI has the financial management and systems to absorb additional funding. AID needs to decide, however, whether it wishes to increase the numbers of direct beneficiaries of ATI's projects by increasing funding for the continual replication of relatively low-impact pilot projects?

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VIII. CURRENT ATI DEVELOPMENT STRATEGY VS AID's STRATEGIC OBJECTIVES

ATI's approach is compatible with much of the current emphasis in AID's economic development thinking. It focusses on sustainable small enterprise development and scaling-up to achieve broad-based economic growth. It also emphasizes strengthening local institutional and managerial capacity with a cross-cutting objective of achieving permanent and large scale impacts from its development efforts.

ATI's strategies for small producer development are congruent with AID's March 1994 Strategies for Sustainable Development. In this document even some of the wording is similar to ATI's. AID's strategy talks of the importance of partnerships in development; partnerships among the NGO and donor communities to bring people and organizations together in collaboration to ensure development efforts reflect the needs and priorities of people. This is also manifested in ATI's strategy statements and reflected in many of their projects. The partnerships created by ATI through its leveraging activities are germane to AID's concerns about collaboration, coordination, and achieving multiplier effects by using United States' foreign aid resources to capture many times the face value in additional funding for needed projects around the globe. In one area, however, ATI and AID's strategies differ, i.e., as relates to sustainability and subsidies.

In sum, the evaluation team concludes that ATI's current Small Producer Development Paradigm and financial diversification through leveraging is uncannily consistent, congruent, and germane to AID's current Strategy for Sustainable Development; its subsidy and sustainability achievements are not, however.

IX. PRINCIPAL FINDING

The evaluation team highlights the central finding of its analyses. This finding - in turn - leads the team to suggest a series of options currently open to AID.

> **Finding**: From the very beginning, ATI's "successful" pilot projects have had no realistic prospect of becoming commercially successful (sustainable) and/or reaching significant numbers of needy people.
>
> The evaluation found that, not-with-standing the stated strategy, and for all its congruency with what AID wants to do, ATI still, after almost 20 years, has no commercially viable technology to show for the $40 million plus in grant funding from AID alone.
>
> Those elements needed for sustainability are nowhere evident. The reasons for this non-sustainability of ATI products are four:
>
> 1. Blanket early subsidies of product must continue indefinitely to assure on-going dissemination, replication, and diffusion.

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2. Artificially low product prices are insisted upon by the home office so as to keep products accessible to the poor.

3. Home and overseas staff are not selected on the basis of their business or marketing skills.

4. ATI staff are pilot project (R&D) oriented and rewarded.

Options suggested to AID on the basis of the foregoing:

1. To terminate core support for operating ATI's perpetual pilot projects in the near future - possibly via a one or two-year phase-out grant. This is the evaluators' recommended option.

2. To continue indefinitely at some level to subsidize ATI's R&D pilot projects in spite of their high cost and low numbers of people reached as long as ATI takes measures to assure that either commercial viability will be achieved within a specific, defined time frame, or technologies would be discontinued as it became apparent that there would be too few takers on an un-subsidized, commercially sustainable basis.

3. To expand AID's pilot project subsidies in order to reach relatively higher numbers of resource-poor people based on calculations of whether the subsidy provided sufficient benefits to the society at large vis-a-vis alternative investments.

4. To insist that ATI expand its leveraging and other resource enhancing programs as a quid-pro-quo for continued AID core support - even on a declining scale.

There is no "silver bullet" for solving the world's development problems, and appropriate technology has been no exception.

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I. APPROPRIATE TECHNOLOGY INTERNATIONAL - The Institution

A. Uniqueness of ATI

ATI was legally incorporated on December 10, 1976 in the District of Columbia as a private nonprofit corporation under the District's Nonprofit Corporation Act. The formal By-laws were approved on December 20, 1976. The organization was established in response to the House International Relations Committee initiative in Section 107 of the International Development and Food Assistance Act of 1975 (amending the Foreign Assistance Act of 1961). The legislation provided for up to $20.0 million over the period FY 1976 - 78 to be used "through grants in support of an expanded and coordinated private effort to promote the development and dissemination of technologies appropriate for developing countries." Apparently committee members felt a small, independent, non-profit entity should be established outside AID to make grants and coordinate Section 107 activities.

As the result of an extensive AID review, the Appropriate Technology Work Group of AID decided a private organization could best fulfill the innovative, private aspects of the Section 107 program and a proposal for a $1.0 million start-up grant was submitted to the Work Group on December 9, 1976. This proposal (or a modified version signed-off on by the newly created organization - ATI) was funded and since then ATI has received grant funding through AID's Science and Technology Bureau (and its successor - GB/R&D/EID) - at times over the bureau's objections through Congressional action, where ATI continues apparently to have some support.

The original documentation reviewed by the evaluation team envisions ATI as an independent, non-profit organization "of and by the private sector" led by a board "consisting of representatives <u>of business</u>, <u>private and voluntary agencies</u>, <u>universities</u>, and <u>others</u>" (emphasis is the author's). It was thought private sector support could be garnered because "the orientation of the board and staff will be toward the private sector"[2]. However, private sector support never significantly materialized. Board members were chosen not as "representatives of businesses, PVO's, universities and others", but as individuals. Nor did ATI develop itself as a membership based organization, although obviously most board members were employed by such organizations. An organization without the guidance of owners, or a constituency and/or interested membership is akin to a ship without a rudder.

By making the effort to identify interested organizations willing to support (morally and possibly also financially) international development with a technology slant, ATI might also gain access to engineering, manufacturing, marketing and management expertise

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[2] _____ (unknown author - a work group representing all major A.I.D. bureaus and offices, possibly written by David French), "Proposal for a Program in Appropriate Technology, In response to Section 107 of the Foreign Assistance Act of 1961, as amended," AID document. Drafted prior to 6/30/76 as the legislation mandated AID submit a proposal prior to 6/30.

through its membership and possibly even build linkages between its membership and the developing countries. If orchestrated properly, board support could include assistance to ATI projects and some board technical assistance and guidance from the real world of business and academia. This could possibly impact on commercialization and dissemination phases of ATI's overseas work.

ATI claims it is different and unique from other PVOs in that it was created as a private organization with strong Congressional and AID support and has for the past 17 years received AID central bureau core grant financing of an average $3.0 - 4.0 million per year to support its programs. ATI depends heavily on core grant funding received from AID/W to cover headquarters (overhead) and other non-project recurrent costs. It views itself as having an "entitlement" to this financing, because of the "unique" mandate from the Congress in 1976 to create a private organization to carry out the appropriate technology agenda of Section 107 of the 1975 International Development and Food Assistance Act. ATI is unique, however, in that it is one of a very few organizations that up to fairly recently received literally all its support from/through the Agency, sometimes as an "earmark" from Congress over the objection of AID staff. ATI is one of a very few organizations that focusses on developing small scale enterprise by improving productivity and profitability through technology development, adaptation, and dissemination.

Finally, after much encouragement from AID and $2.0 million in addition grant funding, ATI is successfully diversifying its funding by leveraging, that is, raising substantial non-AID/W resources. The extra AID money is used to leverage funds for itself (direct leveraging) or for its partners (instrumental leveraging). Much of the money raised is from non-AID sources, but USAID missions and central bureaus of AID/W have also either "bought-in" through the Central Program Support Grant or financed discrete projects on the basis of unsolicited proposals submitted by ATI. Over the cooperative agreement period (through 6/94), ATI received commitments for $3.142 million from USAID missions and central bureaus. Finally, ATI is on the brink of developing private sector financial support through environmentally conscious power companies and through a mutual fund arrangement.

B. ATI Management and Leadership

ATI has a highly qualified staff with remarkable ability in selecting projects reflecting donor interest. ATI has done well identifying target "classes" of small producers and testing different "technologies". Included are tools, equipment, techniques, and/or processes needed to overcome constraints to increases in productivity and income for their target populations. However, none of the technologies or tools developed by ATI over the years have been successfully commercialized, spun-off or taken-over by the private sector. Without the subsidies provided by donors, the appropriate technology has faded from use, if not disappeared altogether.

ATI has put together an excellent Washington-based management team. It is clearly a well lead, competent organization. Employees know their functions and roles in the ATI hierarchy, are dedicated, of high calibre and motivated. ATI demonstrates

professionalism in managing its development strategy and internal bureaucratic processes. Its financial management, accounting, impact monitoring system (IMS), and other reporting systems are capable of producing many kinds of data and reports on request. Internal management systems are in place, although policy and procedures manuals need to be brought up to date, reproduced, and made available to domestic and overseas project staff on the ATI payroll. Likewise, it would seem useful to develop an overseas operations/country representative manual (or guide) to lay-out reporting formats, financial reporting procedures and systems, communications protocol, levels of authority, etc. While not crucial, the team concludes such a tightening-up exercise can help the organization systematize and standardize operations both at headquarters and abroad.

Employee performance appraisal systems appear to be systematically followed.

ATI Washington's ability to identify projects, write proposals, broker, coordinate and to manage the ATI leveraging system of fund raising, has proven to be excellent. Its presentations and documentation of its activities, while complete, are possibly too voluminous to be useful. A tightening of information could be helpful in terms of time savings and clarity.

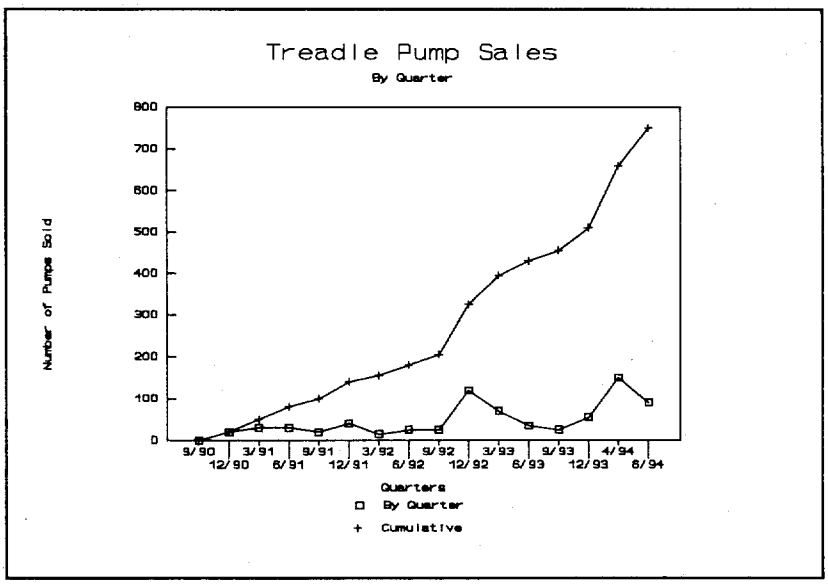

Figure 1 Cumulative Sales of Treadle Pumps in Senegal as Reported by ATI vs Actual Quarterly Sales.

The evaluation team noted, however, that ATI plans and reports cumulative indicators (pump, stove, oil press sales) of its technologies in use and other implementation targets. While these are fine for certain analyses and promotional purposes, this form of reporting does not tell the story and, in fact, may leave the reviewer with wrong impressions. Figures 1 - 4 are illustrative graphical presentations of cumulative vs actual sales by quarter, which the evaluators believe is more representative of the actual technology sales situation. Cumulative graphical data is from reports provided to the evaluation team by ATI and quarterly figures were obtained by interpreting the graphs and estimating the quarterly figures by substraction. They may not be entirely accurate and are presented for illustrative purposes only.

The Washington based senior program staff and project assistants are responsible for maintaining and implementing ATI's small producer development strategy. Through

direct funding and instrumental leveraging, they raise funds for projects and develop institutional partnerships and networks. Staff performs admirably in these process oriented tasks, although criticisms were voiced that headquarters staff spends too much time fund raising and insufficient time in the field implementing projects. In fact, the 1993 work plan estimated "More than 60% of all project staff time will be occupied in efforts to identify additional financial resources, as well as a central focus of senior management."

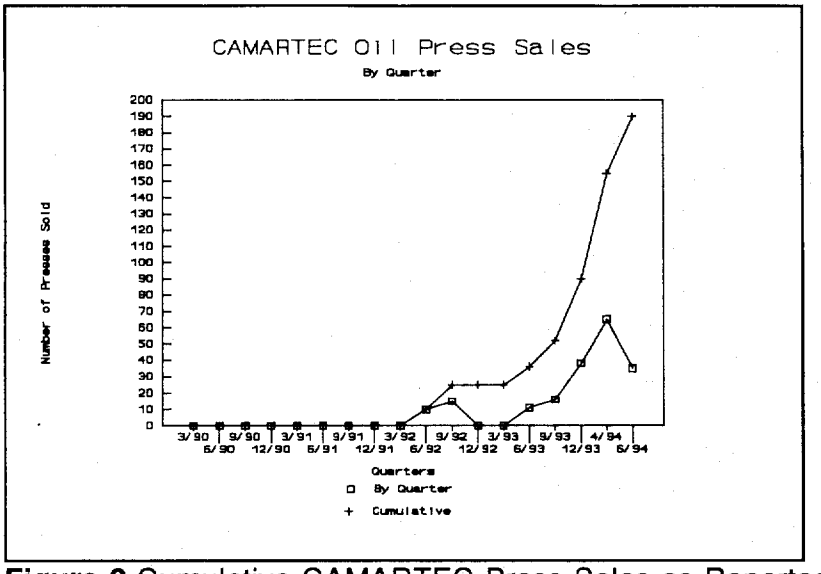

Figure 2 Cumulative CAMARTEC Press Sales as Reported by ATI vs Actual Quarterly Sales (Zimbabwe).

ATI is highly centralized. Washington senior staff, managers, and the program economist assume many of the project implementation decisions for the field. In the countries visited by the evaluation team, the term "micro-management" might be applied to describe Washington's involvement in Senegal, Zimbabwe, and Nepal. Even in Bolivia, where a senior ATI staff person is managing the alpaca project, ATI Washington control seems excessive. At this writing, only one Washington assigned expatriate is posted to the field (Bolivia); the other projects are managed by ATI Washington through host country nationals or in one or two occasions, by expatriates hired in-country with no particular loyalty to either ATI or the U.S. foreign aid program/U.S. policy. Consequently, many decisions on pricing of ATI's technologies, selection of the manufacturers of the technologies, and other operational decisions are made by Washington-based staff. Reportedly, this is done to ensure the technologies enter the market at affordable prices to the poor and there are no glitches in carrying out ATI's small producer development process in the field. This has proved to be a guarantee of non-sustainability.

The ratio of headquarters to U.S. assigned overseas expatriate staff is lopsided, with Washington-based staff representing virtually all of ATI decision making personnel. The balance (in numbers and function) between professional headquarters and field staff needs to be reviewed in terms of decentralizing decision making, implementation authority and responsibility to improve impact and success in sustainable technology commercialization and dissemination.

This personnel situation puts ATI Headquarters in a dilemma. Delegation of too much authority to HCNs or TCNs too early in project development is risky. But, on the

other hand, in its efforts to develop local capacity and institutional sustainability or to keep costs under control, ATI is pressured to hire people, who may not have the skill, understanding, nor share the organizational perspective needed to carry out ATI's Small Producer Development Strategy effectively/[3].

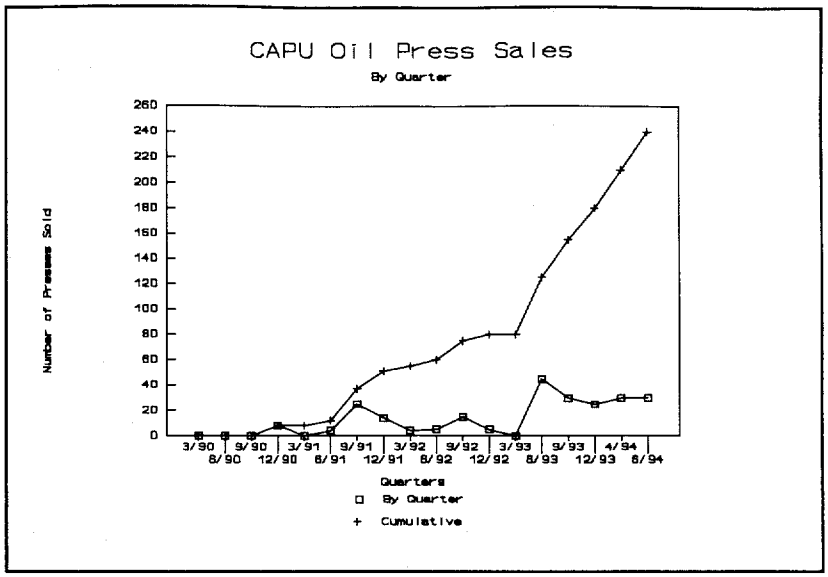

Figure 3 Cumulative CAPU Press Sales as Reported by ATI vs Actual Quarterly Sales (Zimbabwe).

Under these circumstances, in order to maintain ATI's agenda, and in an attempt to assure that ATI projects reflect organizational objectives and philosophy, close control over decisions on pricing of ATI's technologies, selection of the manufacturers of the technologies, and other operational decisions is carefully guarded by Washington-based staff. It is the evaluation team's assessment that field staff are principally considered to be project caretakers.

For ATI to develop and market commercially viable technologies, it cannot concern itself principally with the cost of expatriate advisors. To assign host country staff to projects simply to be politically correct and to reduce costs is questionable. There is nothing more costly than a failed project. If it requires expatriate staff to enter commercial production and marketing, including associated management tasks, it is a good investment. It may save ATI.

If AID accepts ATI's contention that it should maintain Washington-based control over projects with a very top-heavy Washington staff, then AID also accepts the notion of continued management bottlenecks and low impact. Commercial viability and, ultimately, sustainable technology transfers, require dynamic, commercial production and marketing. This, in turn, requires decentralizing production, pricing, and sales decisions. Remote control decision making and central planning from Washington will continue to foster the

[3] It should be noted that ATI recently hired a TCN consultant to provide business and marketing services to the African Regional Oils Project. This person worked previously on several other ATI short-term assignments. Therefore, ATI knows the quality of work, and made the selection on the basis of the mix of skills needed to further its technology commercialization agenda. This is encouraging as there are business development deficiencies in the skills of personnel.

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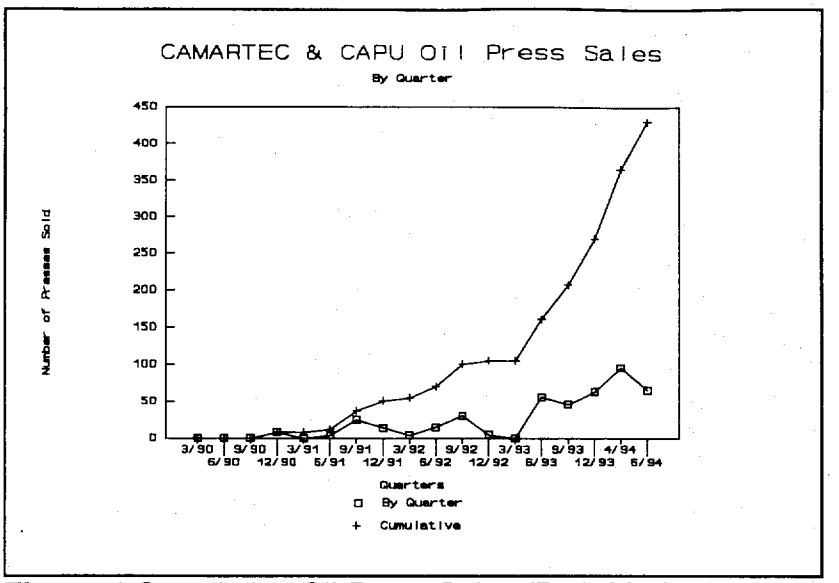

Figure 4 Cumulative Oil Press Sales (Both Models) vs Actual Quarterly Sales (Zimbabwe).

production and sales bottlenecks that have been created in the Africa and Asia projects reviewed.

There is little, if any, direct contact between manufacturers of technologies (pumps and ram presses) and ATI engineers in the United States. All decisions on manufacturing specifications are made in the United States and transmitted to the field via trips or faxes. Despite the relative complexity of the ram press in comparison to other ATI technologies, there is little communication between the manufacturers in the field and the engineers to get feedback on improvements that could simplify the production process or lower costs. Manufacturers of the ram press are puzzled by some of the design choices which result in added costs and feel it strange they were never consulted on design changes or recommendations.

Finally, with regard to reporting and data collection, the team learned when project impact or process data collection is done, there is often little feedback on the results of the analyses. Raw data is sent to Washington, analyzed, and reported internally in ATI and/or to AID and remain there. Giving feedback to the field is important, since the institutionalization of the new impact monitoring system (IMS) depends on cooperation from ATI field offices and partners not necessarily beholden to ATI. If they do not see its usefulness or feel they are being burdened with simply one more reporting requirement, the quality and timeliness of data will suffer.

II. THE CURRENT COOPERATIVE AGREEMENT (As Amended)

A. Introduction & Background

ATI is financed by AID/W through a Cooperative Agreement (DHR-5455-A-00-9082-00), known as ATI III, signed in September 1989 for a five year period. While only obligating $100,000, the original agreement contemplates a $15 million program. But the original ATI III agreement, which incorporates the March 1989 ATI proposal (amended in June 1989) by reference, was very ambitious in its agreed-upon outputs, which among others, promised to leverage $11.8 million from AID/W central bureaus and USAID missions and $28.4 million from other non-AID donors for a total program value of $55.2

million! But it was clear to ATI shortly after signature the ambitious targets would never be reached for a little more than one year into ATI III, the organization prepared and submitted a five year plan/[4], which was "approved" by the then AID/W-S&T/RD/RRD project officer with less ambitious outputs. By the mid-term evaluation, conducted during early summer of 1992, it was obvious ATI was falling seriously behind in achievement of these targets. The mid-term evaluation report, issued finally in December 1992, recommended scaling-back and setting new realistic objectives and indicators. The most recent amendment, processed almost two years after the mid-term team carried-out its work, and only three months before the PACD of ATI III, reduces considerably what was promised in the original ATI proposal. This amendment is reviewed, in detail, in Annex Five.

There are important differences between ATI III and previous funding instruments. These relate to the strategy under which ATI is to make its capabilities available to other donors, foreign governments, USAID missions and selected central bureaus. "The basic purpose of the new Cooperative Agreement is to give ATI greater operational flexibility to expand and diversify its project funding base"/[5]. Similar language is used in the recently concluded amendment: "The purpose of this amendment is to endorse ATI's new approach and to provide ATI with greater operational flexibility"/[6]. Prior to ATI III, AID assistance provided funding to identify, design and fund ATI/W-financed sub-projects through grants to local organizations in the developing countries. But ATI III provides incentives and financing to "reorient" ATI's program "to a mixed supply- and demand-driven program that leverages A.I.D.'s central funds to attract other donor funding"/[7]. Although the agreement was substantively amended during the period the evaluation team carried-out this evaluation, the basic thrust of using AID funds to leverage, broker, and raise multiples of the grant amount remains the same. Targets changed. So did outputs and end of project status. Summing-up, the original CA states "Success ... will be mirrored by a dramatic increase in the number and size of ATI field projects -- to a level far in excess of anything envisioned under a predominantly A.I.D. centrally financed field program." This measure of success is supported by the CA amendment.

But for purposes of this evaluation, the discussion that follows addresses those "deliverables" contained in the ATI Five Year Plan, the latest amendment and agreed upon work plans since the mid-term evaluation, i.e., 1993 and 1994.

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[4] "A.T. International - Five Year Plan and Strategy - 1991 - 1995," ATI, Washington, D.C., November 7, 1990.

[5] Cooperative Agreement DHR-5455-A-00-9082-00, Attachment 2, Cooperative Agreement Program Description.

[6] Attachment 2, Program Description, proposed amendment submitted to FA/OP/B from G/EG/EID on 3/11/1994.

[7] Ibid.

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B. Deliverables and Accomplishments

1. Deliverables in the Cooperative Agreement and Amendment

The five main or central purposes of the amended CA are briefly as follows: a) increase incomes and employment for women and men through the commercialization of technologies; b) transform and increase the productive and value-adding capacity and increase productive activities of small-scale producers; c) maintain or improve the environment while increasing income; d) increase and diversify funding for development and use of commercially viable and environmentally sustainable technologies for small- and micro-enterprises, and e) influence the development strategies of bilateral aid, multilateral development agencies, NGO's and the private sector. While these purposes are seemingly worthy of support, the amendment does not establish substantive end of project status conditions nor other purpose and/or output indicators against which to measure success (or lack thereof) of the CA.

In addition to the principal purposes mentioned above; the amendment provides for mission buy-ins or central bureau OYB transfers (but without targets); quarterly financial reports; annual work plans which must be submitted prior to AID obligating funding for the year in question and which will propose yearly milestones for programs, program funding, progress toward expansion and replication programs, sub-sector emphasis, technologies, and evaluations; and, semi-annual progress reports. ATI is also obligated to implement a system of monitoring and evaluation (IMS) to track and assess ATI's progress in implementing the objectives of the CA (amendment), and, as part of this system, establish yearly impact targets for each of the indicators listed for the IMS as part of the Annual Work Plan.

The Program Description incorporated into the CA amendment includes the following outputs/targets or "deliverables", to use contract terminology:

* ATI will raise $1.00 in either direct funding commitments or instrumental leveraging commitments for every $1.00 in funds provided under the CA. This amounts to $15.0 million or, if the amended budget is used, approximately $16.75 million. **ACCOMPLISHED - exceeded full target by 12/31/94 even though full $15 million has not been provided by AID/W - $18.1 million COMMITTED while $12.577/[8] million SPENT from ATI III for a ratio of 1.43**.

* Of the funding commitments (direct and instrumental leveraging), at least $0.50 of the total outside funding commitments must be in direct funding (direct funding is funds passing through ATI's accounting books for which it has a management and fiduciary responsibility). This amounts to $7.5 million (or approximately $8.375 million, if the

[8] From audited financial statements for FY 1989 - 1993. Amount includes $737,000 approximately in instrumental leveraging funds actually disbursed through 12/31/93.

amended budget is used). **ACCOMPLISHED - $11.671 million in direct funding committed through 12/31/93 as compared to $12.577 of ATI III funds spent for a ratio of 0.93 as compared to a target of 0.50**.

* ATI will prepare a report prior to June 30, 1994 with the results of the first application of the annual monitoring indicators adopted for the IMS. **ACCOMPLISHED - Report issued July 1, 1994**.

AID/W uses Mission buy-ins as a measure of popularity for centrally funded projects. In this respect ATI has been rated low as it hasn't particularly targeted USAID missions and/or central bureaus. But rating a grantee's program against buy-ins is not particularly useful as the difference between centrally funded grants vs contracts is significant (See Annex Five discussing the Cooperative Agreement amendment). As a measure of Mission and central bureau interest in ATI's program, however, ATI secured $2.543 million in USAID buy-ins, grants, OYB transfers and instrumental leveraging grants to one of its partners ($280,000 to FPX in Honduras) in the period 10/90 - 12/93. This includes $0.525 million in buy-ins and OYB transfers from AID/W central bureaus. Therefore, for every dollar in ATI III central funding spent through 12/31/93 (includes $0.737 million of instrumental leveraging funds), $0.20 in additional funding was secured from other AID sources. It is noteworthy that a major OYB transfer was made in June 94 amounting to $0.600 million. When this is added to the non-ATI III commitments the ratio increases to 0.22, assuming an average rate of expenditures from 1/1/94 - 6/30/94 based on an average over the past four years taken from the audited financial statements. This is a marked improvement over the previous cooperative agreement in which the ratios were basically zero.

While this evaluation seeks to illuminate ATI's performance under the current CA and the July 1994 amendment, another document also plays an important role in assessing ATI's accomplishments. This is the AID approved ATI Five Year Plan and Strategy submitted to AID approximately 14 months after signature of the CA. A slightly revised version was annexed to ATI's 1992 work plan and referred to as "Five Year Business Plan 1992 - 1996." It is recognized no language regarding this plan is included in either the original CA or the amendment and reference to the plan is not part of the evaluator's scope of work, nevertheless, this document lays-out what ATI hopes to accomplish in the period 1991 - 1996, which to the evaluators' knowledge is still a valid document.

2. The ATI Five Year Business Plan (1992 - 1996)

The first ATI 5 year plan, developed in late 1990 and approved by AID shortly thereafter, corresponds to the period 1991 - 1995. In late 1991 or early 1992 it was updated and presented once again to AID as an annex to the FY 1992 Annual Work Plan. This updated version corresponds to the period 1992 - 1996. For purposes of the following discussion, the revised plan and targets presented in 1992 as part of the work plan are discussed.

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ATI efforts in the plan period are focused on four priority program areas: 1) commercialization of income-enhancing, productive technologies; 2) a commodity sector or sub-sector approach with interventions at multiple levels within a system of production, processing, and marketing; 3) design specialized venture capital funds and other alternative financing systems to support replication of productive technologies and small enterprise development; and 4) disseminate technologies to improve natural resource management and to promote sustainable livelihoods in fragile environments. For purposes of this discussion, the most important yearly targets contained in the time table/summary chart at the end of the plan will be considered. These are summarized in Table I, appearing on the following page.

In comparing actual achievements against ATI's own business plan a slight complication arises relating to reporting on business plan accomplishments. ATI has not prepared periodic reports of accomplishments juxtaposed with their business plan. This makes comparison somewhat complicated. Nevertheless, gleaning from annual reports, work plans and other documents, the evaluators **CONCLUDE** that by and large ATI has completed most planned activities through 12/31/93, including the $11.0 million in direct income outside ATI III the organization hoped to raise (target through 12/31 - $11.0 million - commitments through 12/31/93 - $11.7 million). The only noteworthy item not completed is the strategy document on commercialization of technology, which once again seems to be a major problem experienced by ATI in this CA cycle.

3. The 1993 Work Plan

The basis for measuring ATI's accomplishments since the mid-term evaluation is a comparison between planned and realized accomplishments. The plans are laid out in the work plans presented and approved by AID for calendar years (also ATI's fiscal year) 1993 and 1994. These work plans together represent over 120 pages of text, typifying ATI's penchant for massive documentation. For purposes of this evaluation, the 1993 work plan and 1993 annual reports were carefully analyzed. The results of this comparison is presented in Annex Six. Only the summary follows.

a. Neither the work plan nor the report are documents reflecting a careful planning and reporting process. The plan itself, is general and lacks quantified details or specific targets and sometimes planned targets are not even discussed in the end of year report. For example: Item #6 in the comparison appearing in Annex Six relates to the Tanzania VOPP project, a cornerstone in the ATI project portfolio. All the plan mentions as 1993 targets is that ATI will increase project focus on women in 1993, hire a woman field manager and a gender expert to train staff. No other outputs are listed as plan in 1993. The 1993 Annual Report states training and tooling was provided to six manufacturers, the project was expanded to all 20 regions and Zanzibar! No mention of increasing focus on women or of whether or not the project hired the field manager and gender expert. Similar entries can be found for almost every ATI on-going project.

PROGRAM AREA	1991	1992	1993	1994	1995
Program Management - Streamline portfolio - ATI IV proposal submitted	X			2nd qtr	
Evaluation - Design ATI III eval. framework	2nd qtr				
New Business Development/[10] - Commercialization of technology - Commodity sector approach - Alternative financing mechanisms - Sustainable livelihoods in fragile environments	2 prjcts 1 prjct	1 prjct 1 prjct 1 prjct	1 prjct 1 prjct 1 prjct/[11] 1 prjct	1 prjct 1 prjct	1 prjct 1 prjct 1 prjct 1 prjct
Strategy Development - Commercialization of technology - Commodity sector approach - Alternative financing mechanisms - Sustainable livelihoods in fragile environments - ATI private sector strategy - Models for scaling-up - Re-assessment of ATI's 5 yr plan	X X X	X X X			
Direct Income Outside ATI III/[12]	$4.0 mln	$3.0 mln	$4.0 mln	$4.0 mln	$4.0 mln
Marketing program - ATI advisory council - Annual Technology Award - Major events: women in technlgy, multinational corps, etc.	X	X X	X	X	X

[9] "A.T. International Five Year Plan and Strategy - 1991 - 1995," ATI, Washington DC, November 1990, Summary Tables and the Annex to "ATI Annual Work Plan FY 1992, 1/31/92.

[10] Numbers represent initiation of major projects of at least $500,000.

[11] To be started in late 1993 or early 1994.

[12] Targets refer to when funds are commited, not disbursed.

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b. The plan and the report are difficult to read and compare planed or targeted achievements with actual accomplishments. The documents are far too lengthy- the emphasis seems to be on quantity of paper vs quality of contents- and are filled with extraneous material and information.

c. There are no summary charts or matrices in which quantified targets are laid-out for each on-going or planned activity with empty columns to insert achievements, illustrate the variance and comment on the achievement or lack thereof. Even though relatively large spreadsheets might be required to show the entire year, these would provide ATI management and the principal donors with data to evaluate performance - both as an internal management tool as well as a more visual, summarized report for the AID project manager.

d. By accepting funds from AID/W for "general core support" ATI should be required to prepare a detailed proposal to obtain the grant, and, prepare detailed yearly work plans (including budgets) and annual reports covering basically all the organization's activities. Excluded, logically, would be those activities which do not use any AID/W funds. However, as AID/W funds are used to cover a portion of the general and administrative expenses, e.g., salary of the president and other non-project specific personnel, this alone would mandate planning and reporting on activities of these persons. The process of general support grants mandates extensive, detailed organization-wide planning and reporting to the general support donor, i.e., AID/W. On the other hand, if ATI's Central Program Support Grant (CPSG) is solicited for specific, discrete activities, planning and reporting might be easier, less time consuming and more meaningful. And ATI could be more easily evaluated...

Following this scenario, the organization would then undertake a normal business plan, i.e., a plan of its business targets and goals, a CPSG plan covering those activities supported by AID/W central funds, and individual project plans and reports, which wouldn't necessarily be included in the CPSG report.

e. Five year business plan: It appears ATI has dropped the five year business plan. The work plan states the new five year 1993 - 1997 plan will be completed and presented at year-end. The annual report doesn't mention the business plan.

C. Impact Indicators

The evaluators have been asked to comment on the appropriateness of the impact indicators contained in Attachment 5 to the CA amendment still pending signature at this writing. The last section of Annex Five to this report provides a detailed discussion, which is summarized here.

Impact indicators should report changes in human conditions such as increased incomes, better lifestyle, improved nutrition, etc. Output, purpose and end of project status (EOPS) indicators are process indicators, or milestones, and are usually contained in the Logical Framework Matrix (or similar planning summary) presented with any proposal for AID assistance. These indicators are tracked during project implementation and reported in periodic reports. Similar to Log Frame planning and reporting system is the management information system

(MIS), usually linked to business planning and reporting systems and an important management tool. Impact is usually assessed in expostfacto evaluations after projects are completed.

Determining the impact of core grant funds on the ultimate beneficiaries of ATI supported projects is difficult because of the issue of how to attribute funding for one set of objectives to impacts which reflect different objectives. If core funds are used to develop new projects funded by non-Federal resources, or are used for general items such as publishing newsletters, evaluation reports, etc., attributing the core grant to increases in income by small farmers in Third World countries is futile. The Cooperative Agreement and each discrete project ATI is managing needs its own set of progress and impact indicators and corresponding baseline data.

It would seem more appropriate and less burdensome not to try to attribute core grant funds to specific impacts at the ultimate beneficiary level. Instead, output, purpose and EOPS indicators relating to specific and discrete projects (activities) to be financed with core grant funds should be established. Trying to attribute increases in incomes and productive capacity of small farmers in the Third World to the expenditure of the core grant is off the mark. Since ATI is now successfully mobilizing resources from numerous non-AID sources, the issue is all the more difficult.

The question remains, therefore, what is to be measured when the specific objectives of the core grant funding are to pay the rent of the headquarters office, develop new projects, or to maintain a support capacity for USAID missions.

ATI should be evaluated at two levels. Level I should answer the question about how well ATI has done as a development broker and leveraging of non-AID funding to expand technological transfer and impact. This reflects the specific objectives of the Cooperative Agreement. General program impacts on peoples' use of technologies, transformations of production methods, and program costs per beneficiary and per unit of a given technology "transferred" might be evaluated under the core. But specific beneficiary impacts for, let's say, market gardeners in Senegal, would be an impact under a project run by ATI and would be evaluated as such, not trying too hard to infer income impacts for gardeners to ATI's core funding.

Level II should answer questions about specific impact on ultimate beneficiaries on a project by project basis. When ATI assumes a role in actually managing and implementing a project in the field, specific impact measures should be established for the project. These would often be projects that receive funding from sources "leveraged" through ATI's "leveraging" grant.

ATI should explore developing project impact, monitoring, and management information systems (MIS) to report figures on individual projects for specific donors; to monitor implementation, study and report on lessons learned as a headquarters and field management tool; and, to train their overseas and domestic staff and partners in this task. Financing the cost of developing the department, process, and impact systems, absorbing costs of its operations, and costs of training ATI and partner overseas staff in impact and development management systems, would make sense as a core grant-financed activity or cost center.

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Indicators of success in such an undertaking are numbers of people trained in the system, number of reports generated, number of institutions (partners) adopting the ATI developed systems, etc. ATI could then use aggregated data and specific reports in their marketing program to document the effectiveness and efficiency of ATI as a development organization. And partner and/or beneficiary organizations would obtain a similar capacity. But to try to attribute core funds to a resultant increase in income or productivity/production amongst small farmers or producers in Third World countries is tenuous.

The indicators documented in Attachment 5 of the CA amendment seem to mix impact and process evaluation indicators. As mentioned above, process indicators relate to input, output and purpose levels of a project or program while impact deals with changes in human conditions and are goal and sometimes EOPS indicators. Nothing the evaluation team has seen indicates either ATI or AID/W contemplate structuring the CA and/or the amendment in these common AID terms (or some ATI specific planning matrix/system and corresponding terms). As such, to talk of impact and process indicators without a document or plan clearly establishing what is to be accomplished with AID resources, where, how, when and at what cost, seems inappropriate. Indicators fall out of a good program or project plan. They should not be fabricated separately and "pasted-onto" the end of a CA, they should be clearly laid out in the Project Description.

Most of the indicators listed in the subject document are fine for measuring overall indicators of the successes of foreign aid. But attributing core or CPSG funding to success at reaching the small producer and having an impact on his income, standard of living and way of life, is naive. Comments follow on each set of indicators identified in Attachment 5 to the amendment of the CA.

OBJECTIVE 1 - Benefit large classes of small scale producers: The indicators on numbers of producers benefitted, the numbers of new and existing enterprises (dis-aggregated by gender) are process, not impact indicators. As process indicators they are acceptable. Yet without a real proposal and summary list or matrix of achievements, the establishment of indicators such as these represent evidence of an incomplete/partial planning process.

If cost indicators could also be presented it might be more instructive. Such items as cost per beneficiary reached by the program or project might give some insight into the cost effectiveness of the overall program. Indicators showing, for example: a) how much was spent by ATI worldwide and how many beneficiaries were directly reached, b) how many indirect beneficiaries, and c) what are the various cost/benefit, cost per beneficiary and cost per tool ratios.

Likewise, if one talks about increases in income of farmers or classes of beneficiaries, indicators like: a) how much was spent for every dollar increase in income, and b) how much was spent for every 1% increase in beneficiary income would seem to make more sense than those indicated in the CA amendment. Indicators would be reported as against total ATI dollars spent and then against total ATI dollars plus instrumental leveraging and counterpart contributions to get a global total for dollars per beneficiary reached and dollars spent for each $1 (or 1%) increase in income.

OBJECTIVE 2 - Substantially increase the productive activities of small-scale producers and their connections to wider markets: Once again, attributing impact to the CPSG is moot and the indicators selected in the referenced document seem inappropriate for a CPSG. Furthermore, they are process indicators more appropriate to EOPS than goal achievement. Without a clear goal and purpose statement (or something similar) the indicators are like dangling modifiers - they don't tell much.

But reporting increases in per capita productivity, production and/or incomes against per capita investment in foreign assistance dollars may give some useful point of comparison. Likewise, the cost in taxpayer resources (world taxpayer, not just U.S. taxpayers) to create each new job might be more interesting than just reporting the numbers of new jobs.

OBJECTIVE 3 - Transform and increase the productive and value-adding capacity of small-scale producers: Most of the indicators listed under this objective in the CA amendment seem meaningless. Once again, how to attribute the AID CPSG to achievement of these indicators - at most the CPSG contributes to achievement of increases in productive and value-added capacity but is not the only component that may influence reaching this target.

If indicators must be chosen to measure increases (or decreases) in productive and value-adding capacity of small scale producers, better ones might be: a) numbers of producers who are now owners/shareholders of value added processing facilities or operations and then over time measure the increase (or decrease) in numbers; b) amount of through-put (through the producer owned processing facilities) of products by small-scale producers and percent increase since the last report; c) value and percent increase (decrease) of gross sales of the producer owned enterprises; d) indicator(s) of profitability of these enterprises; e) increases in the net worth and stockholder (producer) equity of the producer owned value added facilities/businesses, and, f) increase (or decrease) in the amount of investment by producers in these value added facilities.

For individual farmers, artisans and/or micro (or small) enterprise owners, measurement of increases in productive capacity would relate to increase in the asset base (or better yet, the net worth) of the individual or enterprise. To measure this without undertaking complicated field surveys to collect mountains of financial data would seem to be impossible and therefore this indicator should be dropped as a CPSG indicator of success.

The productive capacity of small-scale producers is a nebulous concept that is not worthy of measuring or tracking as part of the CPSG. What does it mean? One can increase their productive capacity by giving them more land, by making certain transfer payments, providing them with access to credit, and of course, providing them with certain tools and/or equipment to facilitate their work (all are increases in asset base or net worth of the individual). But just inventing a better tool isn't likely to increase productive capacity, it's what a person does with the tool that counts. So if ATI invents a new tool, which is being manufactured and sold by commercial firm(s) in the developing countries, the numbers of such tools in the hands of farmers (small-scale producers) is an indicator. But more importantly, how many farmers are actually using the new tool and what increase in productivity may be attributed to use of this tool?

Increases in productivity because a farmer is using a new tool can be calculated for before and after scenarios, but it is something that should be part of impact evaluations of individual projects and not part of the CPSG evaluation requirements.

OBJECTIVE 4 - Improve and Maintain the Physical Environment While Increasing Income:

As footnoted in Annex Five, environmental indicators would seem more appropriate in evaluating impacts of projects in which either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) identified mitigative measures to be taken to protect the environment or safeguard people living in/near project sites. It would seem apparent that any attempt to include environmental indicators as a scoring on performance on implementing the CPSG is inappropriate.

If leveraging funds provided by AID through the CPSG are used to leverage a larger project financed by an international organization, for which an IEE/EIA would have been required if the project had been funded entirely by AID, is there any responsibility for ATI to follow USG (AID) environmental guidelines? What percentage of a particular project funding originating with AID (or Federal) funds would trigger a full-scale EIA?

The individual indicators contained in the CA amendment for Objective 4 are meaningless. It would seem more appropriate to identify individual mitigative measures and/or environmental monitoring indicators once a project is identified that "qualifies" as a project with environmental implications. These indicators would then be reported on a project by project basis and then possibly aggregated into some periodic environmental monitoring report to be submitted as a separate evaluation/lessons learned document.

Interesting comparisons could be made attributing costs and benefits of environmental actions, mitigative measures, etc. and documenting actual experience vs planned (budgeted) items. Environmentalists have succeeded in regulating their field, however, do we really know what the costs and benefits are of these requirements. Furthermore, if ATI is considered by international funding organizations to be an organization with too much environmental baggage, will this affect ATI's ability to obtain non-Federal funding for implementing development projects? How would ATI manage a situation where by using $100,000 in leveraging funds to secure a $10 million project, or by using CPSG funds to prepare the unsolicited proposal to an international organization, an EIA costing $300,000, for example, is mandated by the CPSG project officer (the AID Office of Environment) but is not a requirement of the funding agency and/or the host country government? Who would logically pay for the AID mandated EIA?

OBJECTIVE 5 - Enhance promotion of appropriate technologies by diversifying and increasing funding for ATI and partners and by institutional networking:

In addition to the indicators listed in the CA amendment, which deal primarily with commitments, ratios of, a) actual CPSG expenditures vs expenditures from all other sources, b) Federal funds expenditures vs non-Federal expenditures, and c) commitments vs expenditures

might also be useful indicators. It's not just commitments that count. Actual cash received and project disbursements are important as measures of capacity to perform.

III. IMPACT AND EFFECTIVENESS OF THE ATI APPROACH AND DEVELOPMENT PARADIGM

A. The Small Producer Development Methodology/Strategy

ATI has tried for seventeen years to develop and disseminate small producer technologies that have positive impacts on beneficiary incomes and well being. ATI recognizes the need to increase impact and focus its portfolio to achieve broader benefits across a larger spectrum of need than in previous years. In its desire to increase impact, ATI restructured its portfolio and sought alternative sources of non-AID financing, and systematized its beneficiary and project identification plan which it calls The Small Producer Development Paradigm.

Through the small producer development strategy, ATI attempts to ensure scale-up of its operation and maximum coverage and impact on people as projects are replicated in different settings throughout the world. To this end, ATI emphasizes selection of target groups of small producers (class) that represent large numbers of people producing similar products (commodity group). Constraints to increased productivity and income generation are studied (analysis of the sub-sector and commodity or value chain) and ways to overcome them are devised through selection of technology-based improvements or "transformations".

Once project identification is complete, ATI writes project proposals, obtains financing, and manages small two to five year pilot projects, depending on funding availability, in which the selected technology(ies) is(are) thoroughly tested and production begins on a limited, highly subsidized pilot scale. This first phase also includes the demonstration of commercial viability of the promoted technology and that it is economically and environmentally sustainable.

ATI's research and development record encourages it to make adjustments continuously throughout the course of its pilot phase to ensure the technology being promoted is of high quality and reliable. ATI provides direct technology development and project management assistance along with host country project implementation partners and multilateral donor collaborators. The evaluation team refers to the above activities as Phase I: Research and Development (R&D) - the pilot phase.

Following the first phase, large scale replication and diffusion is planned several years later, financing permitting. The replication and diffusion years, or Phase II, are not yet with us.

B. Application of the Strategy

The Small Producer Development Paradigm is the focal point of ATI's "new business development" methodology since 1993. It is being applied, with the exception of the regional Central American Small Producer Partnership Initiative, which, while small producer oriented, seems to fall outside the system. A number of new initiatives in the non-timber forest products and dairy commodity groups are asking the right questions induced by the methodology. But it is

too early to assess how effective the strategy is in guiding scale-up, and spin-off into commercial production and distribution.

Several old projects continuing in the "post-portfolio purge" era reflect the new strategy's emphasis. For example, several of the technologies being heavily promoted currently, such as oil presses, water lifting devices (treadle pump), ceramic lined stoves, and assorted biotechnologies, were identified and financed previous to the formalization of the Small Producer Development Paradigm. This leads to the conclusion the overall project identification process, in and of itself, may not be particularly new. What is new is that ATI analyzed what it did in the past with its "best" looking technologies and formalized the good parts of the old ad hoc system. Sub-sector analysis, borrowed from the GEMINI Project, was useful to understand constraints to adding value to a product and was conceptually a good fit with ATI's updated thinking. With these elements in place, the Small Producer Development Paradigm emerged.

That ATI systematized its project identification and development system and that it is being applied is a positive finding. But as noted in so many instances regarding ATI's real impact, it is still too early to measure positive impact of The Small Producer Development Paradigm.

C. Impact of ATI's Program

1. General Observations

At the level of individual users of ATI's technologies, there are clearly positive impacts, they are better off, or at least believe they are, and, generally, people appreciate efforts on their behalf. The classes of small producers affected by ATI's work represent large numbers of people in specific countries and around the world. Theoretically, the potential for replication and diffusion and resultant impact on large numbers of low income people seems to exist, but over the years achieving impact through the introduction and commercialization of successful technologies has been illusive.

At the level of its overall program, ATI claims in documents it was "poised" to launch worldwide replication and diffusion of given technologies, but this has never happened with any technology being promoted by the organization. A brief historical review revealed that for at least the past ten years, commitment to sustainable development and achieving commercial viability of technologies have been two bulwarks of the ATI program. As stated in the 1986 ATI Evaluation, "ATI does not have a clearly defined strategy for taking prototype technologies from laboratory to commercial use"/[13].

The "new" Small Producer Development Paradigm that became ATI's basic statement of program development strategy in 1993 is the result of an effort to systematize

[13] Promoting Appropriate Technological Change in Small-Scale Enterprises: An Evaluation of Appropriate Technology International, Delp, Peter, Team Leader, et al. AID Evaluation Special Study No. 45, USAID, November 1896 Appendix F. 3.2

formally, in writing, an approach to development which includes increasing ATI's impact by reaching large numbers of low income small producers (classes of small producers) with technologies that will transform their productive processes and have positive impacts on their incomes and general well being. Furthermore, the technologies must be commercially viable and their dissemination sustainable so maximum impact is achieved. The descriptors used in the strategy do not seem new, with the possible exception of the "classes of small producers" and "sub-sector analysis" twist.

ATI is not reaching its sustainability nor commercial viability objectives. To argue there has not been sufficient time since signing ATI III to achieve product viability and sustainability is begging the question. ATI and AID have addressed the same, or at a minimum, very similar issues for at least the past eight to ten years. In 1985, evaluators stated "ATI's projects involved innovative and risky activities with potential for commercial viability"...but "because the productive activities visited were in a very early stage, the evaluation team's assessment of the likely commercial viability and economic sustainability of the productive activities under the project was limited"/[14].

Furthermore, it is surprising an organization receiving the amounts of Federal funding ATI has over the years has no impact monitoring and evaluation system until 1993. And finally, the evaluation team senses a certain déjà vu when it reads the following statement in 1994: "The difficulty of evaluating ATI's performance is compounded by the continuous process of change it has undergone. These changes started while the Cooperative Agreement was being negotiated in 1982"/[15].

The evaluators recognize formal presentation of the Strategy and the Impact Monitoring System were far overdue and current management of ATI has responded to these requirements. But, with or without a formal strategy prior to 1992, and despite the moving target presented by the amended Cooperative Agreement this team is charged with evaluating, it is disconcerting to realize that in ten years a sum total of 1,330 sunflower oil presses "are in use" in both Tanzania and Zimbabwe/[16]. All but 60 of these presses have been "sold" since 1989, that is to say, in the past five years of this Cooperative Agreement 1,270 presses were put into service or in the IMS's terminology, are "in use." About 580 of these were "sold or started" in 1993, according to the 1993 Impact Monitoring System Report. It is encouraging about half of all

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[14] Promoting Appropriate Technological Change in Small-Scale Enterprises: An Evaluation of Appropriate Technology International, Delp, Peter, Team Leader, et al. AID Evaluation Special Study No. 45, USAID, November 1896 Appendix F. 1.3 and 2.1

[15] Promoting Appropriate Technological Change in Small-Scale Enterprises: An Evaluation of Appropriate Technology International, Delp, Peter, Team Leader, et al. AID Evaluation Special Study No. 45, USAID, November 1896; Appendix B: Evaluating a Changing ATI; 1. ATI's Continuous Process of Change

[16] Oil presses are taken as an example here because this technology is presented in the 1993 IMS Report as the premier technology in terms of sales and diffusion potential.

presses reported were sold or started in 1993/[17]. Total project funding commitments over the years since 1984 to oil press development and dissemination, according to the 1993 IMS, was $910,584, or $600 per unit.

Juxtaposing current 1994 project initiatives with those mentioned in the literature provided to the team, it was revealing to note ceramic lined stoves in Senegal had their genesis in Kenya in 1985; rhizobium inoculant in Thailand, 1984; wool spinning in Nepal in 1984, and mushroom growing and coconut processing in the Philippines as part of the Rural Small Industries Development Program, 1985. ATI has worked at some level with all of these technologies for eight to 10 years.

2. Impact on Beneficiaries

As mentioned before, there are positive benefits of ATI's more mature technologies on individual end users. Because of the treadle pumps, market gardeners have increased the size of their gardens and incomes have, according to a survey at the end of 1993, increased by U.S.$1,118. Fuel efficient charcoal stoves save beneficiaries US$103 per year in charcoal purchases, according to project statistics, and from the point of view of the society at large, the savings in charcoal use represent 817 hectares of forest.

Anecdotal appreciations of impact follow. It should also be recalled possible impacts noted here are an appraisal of impact on individual beneficiaries and are distinct from overall program impact or cost effectiveness.

a. Bolivia alpaca project

The Bolivia alpaca project seems well designed and meets particularly well both Bolivia's current development priorities and ATI/AIGACAA, UNDP, and UNCDF development mandates. It is a very nice "fit" indeed. The team visited project personnel and clients on the high Altiplano and learned what beneficiaries thought about the AIGACAA/ATI project.

Bolivian alpaca herders find the credit project to be the best service AIGACAA provides in it's 18 year history. Credit enables 256 herders to increase numbers of breeding animals and improve quality of their herds, even though most of the animals were bought from neighbors without access to project services (credit). Herders speak well of the credit received for pasture improvements, principally in the form of barbed wire fencing to facilitate pasture management and grazing rotation. On the altiplano, this activity is extremely important to environmental rejuvenation after centuries of overgrazing by sheep, llamas, alpacas, and vicuñas.

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[17] The "sold or started" terminology used in the IMS is such that one is not sure how many are "in use" or "in stock." The team saw probably 20% of the total of 164 presses sold or started that were attributed to ZOPP, in ZOPP's storeroom and at agents and manufacturers installations.

Veterinary services to improve animal health and to select breeding animals are important to some beneficiaries, but their benefits are still esoteric to many, so the concrete inputs from credit take precedence as having the principal positive impacts.

Prices for alpaca wool paid by AIGACAA increased by 300% since the beginning of the year and appear to be the result of direct competitive bidding with Peruvian buyers representing spinning mills in Arequipa. Higher prices, initially, appear to be a very positive impact on alpaca producers. Clearly, high prices for raw wool is welcomed by herders on the short-term.

However, the negative impact for COPROCA is that to accumulate sufficient inventories to begin processing operations, it must buy at high prices, putting pressure on the maximum raw material price level contained in the feasibility study.

Part of the problem is that COPROCA must rely on more than just its membership for raw materials. It must compete on equal terms with any buyer. Little sense of loyalty to AIGACAA exists. Peruvian buyers, who may give a slightly higher price can count on availability of wool. AIGACAA members do not know much about the processing plant and their role and do not view the Peruvian competition to COPROCA to be against their own interests. Only recently has AIGACAA/COPROCA started convincing its members to sell to their "own" organization at a lower price than to the Peruvian buyers on the border.

The only impacts seen so far are reflected in higher wool prices and credit; as for veterinary services and fiber processing, no benefits have accrued to date although slowly herders are learning about the COPROCA aspect of AIGACAA.

b. Senegal treadle pumps

i. Market gardeners

Market gardeners clearly benefit from treadle pumps. They produce during two crop cycles and are able to double or triple the amount of land under cultivation, which increases income. A female gardener said by producing in the off-season, she replaced her husband's rice milling income at a time when rice is not available for processing, and paid down his debt. One gardener doubled his father's original lot and by producing tomatoes in the dry season tripled the price per box from CFA 1,500 (US$ 2.77) to CFA 4,500 (US$8.31). Another farmer harvested a small onion crop in the off season and expected to receive over twice the in-season price.

Additionally, market gardeners increase their productivity because they spend more time on cultivation work and less on inefficient water hauling. According to project statistics, productivity has increased by 115%. Increases of 121% in income were recently calculated by ATI.

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ii. Pump producers

Manufacturers of pumps work on a franchise basis with the project. Each month project pump "monitors" check sales lists and collect royalties on the lease/purchase contract to pay for costs of the jigs, molds, and other special tooling provided by the project and needed to produce certain parts of the pumps having more precise specifications.

Pump fabricators are typical small metalworking businesses in business before starting treadle pump production. They are not the smallest of their kind. Other product lines include rice hullers, grinders, and feed mixers. They have tools, such as drill presses, welding machines, and metal benders frequently used in this type of business. They use unpaid and very young apprentice labor. Those firms visited seemed to be sufficiently equipped and capitalized to carry on the business without project investments in their infrastructure.

At CFA 40,000 (US$74) to 45,000 (US$83) per pump (delivered and installed), one manufacturer (the largest, most dynamic producer, and President of the metalworking business association in Thies with a total of 200 pumps sold) believes he could make about CFA 8,000 (US$15) profit after costs are calculated. However, another manufacturer reported that if he actually had to sell and distribute the pumps, and do the promotional and training work, he would not make a profit. Another manufacturer placed pumps in third place behind other machines/tools he makes. In part, he believes this is due to credit sales and payments are often late, affecting his cash flow. It is important to note again, the target market for pumps has a lower disposable income than for the other machines manufactured and sold by these shops.

It appears manufacturers may make money on each individual treadle pump as a franchise producer if the project were to continue to provide the other organizational, promotional, and training and extension services.

c. Senegal ceramic-lined stoves

i. Stove users

The ceramic lined stoves are, even at current high subsidies, substantially more expensive (CFA 4,500 vs CFA 1,200) than traditional less efficient stoves. A concern for the project is how to compete with the lower priced stoves. Eleven thousand (11,000) project stoves (Diambar) have been sold. Impact on users is reflected in charcoal savings. An average family saves about 1.5 kg per day or about US$ 103/year. The conservation issue is, in fact, a primary project selection consideration for this technology and the economic savings on charcoal use is viewed as a primary benefit. Stove users confirm reduced charcoal usage.

ii. Stove manufacturers

Intermediary manufacturers are small informal sector artisans, who in contrast to pump manufacturers, have no other business activity, as far as the team could tell. Scrap metal is obtained at low cost from collectors and artisans use "apprentice" labor or free labor that is learning a trade. Advertising and promotion is also project financed, and is free.

Of two producers visited, one alleges to have built a house with profits (CFA 4,500,000 or US$8,300±) from sales of approximately 3,000 stoves (80/month for three years @ CFA 1,500 profit/stove). This manufacturer received a 17% CFA 100,000 loan from a USAID-financed ACEP micro-enterprise credit program for to purchase ceramic liners (CFA 70,000) and metal (CFA 30,000).

Producers seem to be the project's agents. Despite the sparse information collected, but given the personal experience of the team members over the years, the team believes stove making, if left on its own today, could not survive.

iii. Ceramic liner manufacturer

The greatest indicator of potential for increasing stove sales came from the ceramic liner producer who received a needed kiln donated by the British through the project. He and his eight associates received a CFA 4.0 million loan to increase liner production, purchase stoves from the small metalworking shops, and cover distribution expenses. They believe at least 400 stoves a month can be sold in rural areas outside Dakar. To date, selling ceramic liners to the producers has not been dynamic, but if this agent can set up a national sales system, maybe increased quantities would help generate commercial viability.

d. Zimbabwe oil presses

i. Intermediary producers

The two manufacturers visited profess to be losing money on press production and from the small sales numbers (5, 10, 15 per month) and, what appear to be quite small margins for their overhead requirements and tooling, they probably are. But no one in ZOPP seems to know for sure. According to the manufacturers, their other product lines must cover the losses.

Both manufacturers believe costs could be cut by changing some design elements. But, apparently, there has been no communication with ATI engineers on the possibility of cutting some Z$ 300 from the manufacturing cost, which may or may not make sense or be possible from an engineering viewpoint. Cutting costs is, one manufacturer believes, the only way to increase returns. Raising the price will price the presses out of the market, he claims. Since ZOPP's orders are so low, the same manufacturer, and ZOPP's principal intermediate producer, speculated as to whether demand really exists. Ultimately, the question for ZOPP will become "is there enough profit for manufacturers to make it worthwhile for them to continue manufacturing on their own?"

ii. Oil press owners

Oil press owners benefit from their machines. They have more convenient access to oil, can press their own seed for home consumption and for their extended families, and can sell oil to the general public, if the supply lasts.

Depending on how much time they are willing to devote to pressing, press owners may view the activity as a business opportunity or as beneficial home based productive activity. One well established women's group in Zimbabwe treats its pressing as a business activity, and while they did not know exactly how much was being made, they did keep simple bookkeeping records, a residual benefit of the project. Additionally, the group's representative was certain they are accumulating funds for eventual repairs and for the purchase of another press, in addition to some personal income for the women depending on the amount of time each spends operating the press.

In another case, and the largest business application of the presses, two ex-government employees used their severance pay to purchase four presses (2 CAPU and 2 CAMARTEC). The business was going well and their main problem was cash flow to purchase seed in large enough quantities to obtain a discount. Their advantage is a fairly large market in public schools, where they have contacts acquired before leaving government service. This is a good example of an instance where the press owners are not the poorest segment of ATI's target clientele and apparently have sufficient resources, entrepreneurial interest and vision to use the technology as a business. Whether they can maintain current positive cash flow and profitably remains to be seen.

iii. Consumers of "ZOPP" sunflower oil

There appears to be a small positive impact on consumers of "ZOPP" oil since its price is lower than other commercial oils. But the small number of presses in use (about 400 - 500 maximum in the whole country) and the fact some are used for personal and extended family consumption and service pressing for neighbors, would indicate overall impact on consumers is small.

The price of oil pressed with ZOPP presses is, on average, Z$ 0.50 - 1.00 per 750 ml less expensive than commercial oils found in stores visited in Mashonaland East. The lowest price encountered for "ZOPP" oil was a wholesale price of Z$ 7.00 per 750 ml bottle from the "large" producer with 4 presses. The normal ZOPP price is approximately Z$ 7.50 per 750 ml bottle. Commercial oil (blend) is between Z$ 7.95 to Z$ 9.00 for a comparable bottle.

iv. Sunflower seed growers

There is a market for seed either with large oil companies or with the Grain Marketing Board (GMB) so the net benefit to seed growers is difficult to assess. However, one grower interviewed at random on the road, not connected to the project, reportedly preferred to sell his seed to the GMB rather than to small press owners because the GMB paid cash while independent press owners would likely defer payment until after pressing, or pay in kind (oil and

cake). GMB prices are quite good, leading to the conclusion seed producers may not receive a better price from independent small press operators even if they are willing to wait for payment.

e. Nepal potato tissue culture

Besides training in sand-rooting and mini-tuber production there is little impact to date from the potato project investment. It is still too early to know. The project is also currently held up by viral and funding problems.

f. ANSAB - regional bio-diversity projects

These are only in the pre-feasibility stage and there is no impact.

3. Impact on Partners

One of ATI's important contributions to development over the past five years stems from its emphasis on diversifying funding sources and creating partnerships with development financing institutions and project implementers in the field. ATI raises funds from about 26 organizations in amounts varying from multi-million dollar project implementation grants (Bolivia alpaca and India dairy) to smaller sums for feasibility studies (India/Nepal bio-diversity).

At the level of donor organizations, ATI's professionalism and ability to write proposals and present projects gives some large multi-lateral donors a different opinion on working more closely with NGOs and, from a very specific contractual perspective, the special kinds of financing needs NGOs have.

For example, NGOs must achieve institutional sustainability requiring them to cover overhead as well as specific project implementation expenses. But some donors typically refuse to finance overhead. NGOs face a catch-22 situation. Through ATI's work there appears to be growing flexibility in these areas as demonstrated in its UNDP/UNCDF projects and contracting arrangements with UNDP/OPS (Office of Program Services).

Because of ATI's work with IFAD in small plot irrigation and the introduction of the treadle pump, it appears this will influence a major shift in World Bank thinking about project implementation and levels of technology to use in an expanded small scale irrigation project focussed on market gardeners in Nigeria. This is significant in demonstrating the possibilities of the diffusion stage in ATI's Small Producer Development Paradigm.

At the level of "managing partners", that is, organizations assisting ATI in varying degrees in actual implementation of projects, results are spottier. ATI does obtain or provide from its own funds financing for partner organizations (World University Services of Canada; ANSAB; etc.) to carry out ATI driven projects. And, in the case of ANSAB for example, ATI was instrumental in its creation, determination of its initial program, and financing start-up expenses. But ATI, possibly because of a conscious decision several years ago to de-emphasize institutional development (just to mention the term in ATI/W was risky) or simply because of the

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level of development of already established partner organizations, does not appear to have a large strengthening impact.

D. WID Issues - Impact

While most of ATI's activities are not specifically targeted at a particular gender, both men and women benefit - on average - about equally. ATI project documents, including project proposals, evaluations and implementation plans specifically address women issues and impacts on women. ATI makes a conscious effort to seek opportunities to involve women in all of the projects visited by the evaluation team and the recently launched IMS reports and tracks beneficiaries by gender, as do individual project reports.

Notwithstanding the above, some activities do reach proportionally more women than men. For example, the Diambar stove technology is targeted almost exclusively at women as the ultimate beneficiaries as they are usually charged with cooking and other domestic responsibilities in Senegal. Benefits accrue as a result of charcoal savings and less cooking time. Most stove sales persons are women or groups of women organized into clubs. Over 11,000 adult women have directly benefitted from stove purchases.

Stoves are composed of two principal components, i.e., the ceramic liner and the metal jacket. Manufacturers of ceramic liners are represented by both women and men. A women's groupement reportedly makes liners, however, recent impressions are this activity may have ceased in an organized fashion as no mention of it was made to the evaluators. The largest liner manufacturer is a company or groupement of male artisans, who recently received a substantial loan to expand the business to sell stoves in areas outside Dakar. Manufacturers of pumps and the final stove product (the assembled, finished stove) are universally men. The pump "sales force," if one exists, are men.

ATI is promoting another women-specific tool in Senegal known to the evaluators as the "armored pestle." Most grains are ground at home in Senegal by women using a large mortar and pestle. By protecting and reinforcing the pestle tip with metal, significantly less time and effort is needed for grinding and it lasts much longer, reportedly. Data on numbers of improved pestles sold and presumably in use are not reflected in either the 1993 Annual Report or the IMS report but the January - March 1994 field report from Senegal listed 181 armored pestles sold since commercial test marketing started sometime in 1993. This item is not a major program thrust of ATI Senegal.

In Zimbabwe, 37 women's groups (as opposed to 36 men's groups) have become press owners and many male press clients actually purchased presses for their partners, as women find it difficult to obtain credit, although the ZOPP project has a specific credit fund for women clients financed by a grant from CIDA. The IMS report for 1993 also provides data on women beneficiaries/press owners, although the figures illustrate equal number of women and men owned presses as of 12/31/93.

As most groups purchasing presses intend to go into business, owners benefit from presumable profits, as do individual women press owners and workers.

In Nepal, none of the activities reviewed specifically target women, although 35 women cultivators involved in the potato project were trained in sand rooting techniques and have aspirations of becoming potato seed producers, once the virus problem has been solved. In field visits, enquiry was made into roles of women and men in the potato seed business and it was found no gender specific roles are assigned, although men tend to carry heavy loads of seed and "ware"/[18] potatoes from the fields to storage and marketing facilities in town. The evaluator suggested perhaps villagers might segregate the seed business into specific roles for men and women, e.g., women do sand rooting while men do other tasks. Of the more than 60 villagers interviewed, not one supported this concept. In fact, after much discussion, both groups interviewed felt both women and men have equal results in micro-shoot survival and subsequent field transplanting.

In Bolivia, however, project components are specifically targeted at women because of their specific role in the animal fiber value added chain. Women, universally, care for female alpacas and llamas and are primarily responsible for wool sales (men slaughter, market meat and hides and care for male animals which are kept separately from females until breeding periods). As such women are direct beneficiaries of project veterinary services, pasture improvement programs, credit activities and other training functions. As per the IMS report, monetary benefits accrued to 500 women as compared to 212 men, 128 joint recipients received credit (It is a project requirement both spouses must sign credit applications and loan papers), and women received $55,043 in gross revenue from fiber sales while men received only $23,338. Yet in training activities, the numbers do not support women's important role in alpaca and llama herding sectors. Tables II and III below present data extracted from the Addenda to the 1993 IMS Report/[19]

[18] "Ware" potatoes are market potatoes to be traded and sold for human consumption.

[19] Impact Monitoring System - Report for 1993, Steven Romanoff and Eric Hyman, ATI, Washington, D.C., July 1, 1994.

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Table II

Training - Bolivia

Subject	Men Trained	Women Trained
Use of a technology	494	266
Production, processing, mkt.	90	80
Financial or credit mgmt.	490	180
Resource mgmt or environmental	0	0
TOTAL	1,074	526

Table III

Training by Technology

Subject	Men Trained	Women Trained
Animal health * vet. practices	329	170
Animal management	90	80
Alpaca breeding	329	170
Alpaca shearing	10	3
Pasture improvement	195	160
Irrigation canals	195	160

As can be seen from ATI's data, twice as many Bolivian men were trained as women. This is inconsistent with the economic activity where more than twice as many women reported monetary benefits and women sold more than twice as much alpaca fiber as men.

One of the project's veterinary para-technicians was female, although after her departure it was impossible to find another suitably qualified woman. Veterinary services are currently offered by male technicians. The evaluators questioned several woman herders regarding their feelings and experiences with regard to both women para-technician and training activities. Of the two respondents, one had never been to a training activity while the other attended one meeting in Cosapa. Both received visits from the female para-technician and had no opinion regarding her abilities nor did they express a preference for receiving this kind of service from a women as opposed to from a man. An ATI staff person accompanying the evaluators did suggest, however, the woman para-technician experienced trouble earning acceptance initially, but due to her strong technical capabilities and dynamic personality she was able to overcome any gender related handicap as viewed by female herders. Both respondents did mention training classes/meetings were difficult to attend as herding and homemaking responsibilities precluding them from straying too far from their alpacas and home.

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From the above, it would seem apparent ATI/Bolivia might seek additional ways to reach more women in their training activities, especially since women play such a critical role in the animal fiber value added chain in the Bolivian Altiplano.

E. Sustainability, Subsidies and Cost Effectiveness

The relationship of subsidy to sustainability should be reviewed at the following three levels:

Level I: Sustainability of a given technology promoted by ATI;

Level II: Sustainability of a project under which a set of technologies is being promoted; and,

Level III: Sustainability of ATI as an organization.

1. Level I: Sustainability of a given technology promoted by ATI

The technologies seen by the evaluators are so highly subsidized in the initial stages their eventual viability as a sustainable tool or appliance is seriously called into question. At current price levels, largely controlled by ATI, technologies only appear sustainable if ATI and/or donor subsidies are continued. No one, including manufacturers, has a clear idea of what the sales price must be to ensure viable commercial replication, dissemination and diffusion of any of the technologies presently supported by ATI. This is documented in the trip reports corresponding to Senegal, Zimbabwe and Nepal attached hereto.

In Zimbabwe and Senegal, where ATI's technologies are beginning the expansion phase, prices of presses, pumps and stoves have purposefully been kept low on instructions from ATI Washington to ensure they are affordable to very low income people. This approach results in relatively small numbers of clients ever having benefits from the technology being promoted. As soon as donor financing is exhausted, so will production and sale of the ATI promoted technology. This is so because it was not permitted to become viable under real market conditions.

Ohio State University (Dale Adams, Robert Vogle, et al) studies demonstrated conclusively that subsidized credit limits long-run benefits to both borrowers and lenders. Likewise, subsidized commercial production of a commodity tampers with costs and pricing and creates an artificial market based on incorrect cost and price assumptions. When subsidies are dropped, and manufacturing costs increase to real levels, prices will respond proportionately. The critical question is whether the consumer will be willing to pay the new commercial price of the product.

In Senegal, Zimbabwe and Nepal large subsidies exist for promotion, distribution, training and seed production. While the user training is less for stoves and pumps in Senegal than for oilseed presses in Zimbabwe (a more complex technology, in Nepal training has been the principal focus. The promotional and distribution components of ATI's systems in Senegal

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and Zimbabwe are similar and costly on a sale by sale basis and have become major bottlenecks hampering the ATI's expansion and diffusion stages.

In all of the countries visited, projects still provide heavy subsidies. As ATI assists technologies make the transition from an R & D pilot strategy to commercial introduction to the market place, possibly through price hikes, fundamental problems in terms of price elasticity will crop-up. Highly subsidized social pricing based on partial cost analyses (prices based on current cash flow data rather than a full accounting) has, on several occasions, set the standard.

The socially-based prices of treadle pumps, Diambar stoves, and ram presses are assumed by potential buyers to be the fair commercial value of the product. Raising the price later to make these technologies viable from a manufacturing perspective, will, most likely, be difficult. And this is the problem with trying to manipulate and create markets through subsidization.

Currently ATI has neither programs nor real strategies for entering PHASE II. What it believes to be the start of its commercialization phase is only a continuation of PHASE I, but with market test levels of sales and informational/promotional activities, which ATI terms commercial, and which are really not. ATI's new feasibility studies deal extensively with product marketing, but there still is a contradictory theme of achieving commercial viability when neither the product nor the targeted consumer group are propitious for that to happen.

Socially based prices have a tendency to become the prices consumers expect to pay. As more and more people purchase ATI's products under ATI's centrally planned pricing system, it will become increasingly difficult to raise the commercial price to a viable level. The big question becomes, how much a subsidy is ATI capable of maintaining, or are ATI's donors willing to put up to sustain the product non-commercially, and for how long?

2. Level II: Sustainability of a project under which a set of technologies is being promoted

Documents provided regarding economic benefits to society from the Diambar stoves and treadle pumps report benefits of $2.36 and $5.07 respectively for each dollar spent. These data justify large transfers to subsidize certain kinds of activities on the basis returns to the society at large are worth the cost.

Assuming this to be true and up-front, pre-commercial, pilot production subsidies, are justified by the overall economic benefits, the question remains for ATI, "how long can a project wait to extricate itself from its role (and subsidy) and allow commercial production and marketing to take over?" Without an exit time frame, pilot projects go on indefinitely. If the pilot phase must continue indefinitely, this is an indication of non-viability of the technology.

The question then, for AID is "how long can the Agency continue to justify financing non-commercially viable technologies in the name of positive economic benefits to the society as a whole? This is the current AID dilemma.

ATI projects should not be totally sustainable, the team believes. In fact, ATI's "projects" should phase down and out, eventually turning activities over to either intermediary manufacturers and distributors, the users (possibly organized as an association), or to other local agencies or organizations interested in and able to provide on-going support. If certain technologies require continued subsidies for extension and promotional activities, continuing these kinds of services on a subsidized basis is more acceptable than continued subsidies to the ostensibly commercial manufacturing, distribution and after sales service systems. Where the philosophy of sustainable development is most applicable, is to the technologies themselves ATI is promoting; not to the project that promoted the technology.

ATI, however, does not share this belief as demonstrated by their actions, even though their publications espouse this free market doctrine. What about the Agency for International Development? If subsidized sustainability is acceptable to AID, ATI and its Congressional supporters, then the question of how long or how much to subsidize a given technology or product must be answered.

3. Level III: Sustainability of ATI.

The long-term future of ATI as an institution is being addressed partially through diversifying and expanding its funding beyond the limited resources of AID. The leveraging resources provided help ATI finance its funding diversification efforts. This seems to be an appropriate response to the recognition that ATI's future, including the expansion and diffusion of its technologies to a broader spectrum of small producers, if found to be viable, would require substantially more resources than are currently provided by AID. Another component of this recognition is that it is irresponsible to assume that Congressional interest (mandate?) dating back to the mid-1970's necessarily assures ATI of indefinite Federal funding.

Additional resources could be provided by multilateral and bilateral donors through partnerships with NGO/PVO implementing organizations. But given the lack of experience these organizations have working with NGOs and PVOs there is a need, first, to establish a precedent in the multilateral and bilateral donor organizations. They need to learn working with ATI can produce positive results. The big donors also need to be educated as to the financial needs of the NGO/PVO community in meeting its sustainability objectives, including the need to recover overhead, something here-to-fore prohibited under the project financing regulations of some multilateral and bilateral donors.

ATI, through its leveraging fund, has begun the process of bringing the multilateral and bilateral donors, as well as private business and foundations, into collaborative financing of projects. The efforts have produced a number of projects which have included some overhead as a budget line item. This is helping to begin addressing ATI's future institutional sustainability.

In the absence of an endowment or another source of unrestricted income, ATI will need grant funding indefinitely to develop and implement the first or pilot stages of its technologies. While fees for services and possibly profits from businesses that might be set up in the future to manufacture proprietary technologies commercially may boost revenues, they should not be expected to eventually lead to ATI self-sufficiency. ATI's future is firmly linked to

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how successful it is in raising funds on the basis of the real achievements of its program. The evaluation team believes ATI's success in developing a firm base for its own sustainability (Level III) will be in how well it does in spinning off commercially viable technologies (Level I - real results) and in following its own exit strategy from projects (Level II).

F. Conclusions

ATI runs into trouble in what should be the post-pilot stage or phase II: commercial production and marketing. While ATI is good at fund raising and pilot stages of technology development, it continues projects indefinitely as pilots, expands into a new region, finds other manufacturers to train, equip and sign-up, and generate ever increasing subsidies. Phase II, in a commercial sense, is illusive for ATI. Heavily subsidized pilot level commercial type activities of a very small scale, cannot qualify as commercial, market driven efforts.

ATI repeatedly states in its five year plan (1991 & 1992) small producer development strategy (1993), and the impact monitoring system (1994), a critical indicator of success is the number of people who use and benefit from the tools, equipment, techniques, and processes promoted. ATI, to its credit, recognizes technologies are only valuable to the extent they are put to use by large numbers of people. ATI is also committed in its planning documents and strategies to develop commercially viable technologies. Implied in this rhetoric is making the transition from a development project to commercial production and marketing of the technologies it promotes.

Under the research and development umbrella, however, the heavy ATI subsidies continue without a clear end in sight. It is still unclear how commercially viable any of their technologies is. The selling price urged by ATI Washington does not take into account highly subsidized promotion and distribution costs nor R&D expenses associated with the technologies the evaluation team studied. "Going commercial" for ATI's oil presses, treadle pumps, potato seed production and marketing projects so far seems to mean small scale test marketing to determine product acceptance.

This is explained away by ATI's assertion that only recently have pumps, stoves, and oil presses become "mature" enough to enter the expansion phase in the ATI's small producer development system. It might be an acceptable explanation if there is evidence of a strategy or an action plan for transition to Phase II and if ATI had not been working with these technologies for years. If the new Senegal PVO co-financing and draft plans for the Nepal potato seed projects are any indication, it is apparent ATI is not thinking commercial. There are conflicting social and commercial objectives which seem not to have been reconciled yet.

While ATI is good in the exploratory and design stages of its Small Producer Development Paradigm, there is no requirement to build an exit strategy into the project. An example of an exit strategy is "going commercial" on market terms within an established time frame, eliminating subsidies from the production and marketing operations and building capacity to eventually shut down the project altogether. But as long as ATI is operative and in the middle of developing, manufacturing and promoting a technology (and earning overhead), exiting is that much more difficult.

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After reviewing ATI's documents and visiting projects in four countries, it is apparent ATI does an excellent job of project identification, writing proposals, fund raising, and setting up pilot projects. But there are several critical contradictions between what ATI says in its documents and claims in its presentations with regard to development of commercially viable technologies and sustainable development, and what is actually happening in the field right now.

First, ATI claims it develops commercially viable technologies to generate income and employment through increased business activity and productivity in small businesses and micro-enterprises. However, there is no discussion in ATI's project planning or strategies about how the production and marketing of the technology will be weaned from the project and put on a commercially viable footing. There is no exit strategy in which ATI pulls away and withdraws its subsidies. If subsidies stop, the projects disappear. For this reason ATI's projects will likely continue, perhaps indefinitely, in the pilot mode.

If sustainable production and marketing of the technologies promoted by ATI is a goal, it has not been achieved to date over the life of the current cooperative agreement. It is difficult to envision the technologies under ATI's current research and development phase achieving wide distribution. There are both production and distribution bottlenecks under ATI's pilot project focus. As long as the project is the driving force, these bottlenecks will not be overcome without increasing project staff and other subsidized expenses. This will assure increasing subsidies rather than the reverse.

Second, the Small Producer Development Paradigm states commercial viability will be studied during what is termed the Design Phase. Project employees are aware of the need to set real prices based on total costs, but this has not apparently been a priority as ATI seems more intent on producing and distributing large numbers of tools/technologies as opposed to institutionalizing viability. Many real costs which, if a business had to assume them, almost certainly would price ATI's technologies out of the market, are not included in the sales prices which are set by ATI. There is an implicit assumption that ATI's technologies will always require some level of subsidization. Very heavy current subsidies for production, promotion, and marketing, with no plan for long-term, on-going sustainability through commercial viability, were disturbing findings in every case the evaluation team reviewed.

Third, the commercial viability issue presents serious questions when trying to assess the cost-effectiveness of ATI. As long as ATI continues its approach of replicating highly subsidized pilot-type operations with production and marketing bottlenecks, the cost-effectiveness of its small producer development system is jeopardized. Cost-effectiveness is enhanced only when marginal revenues from sales outstrip marginal costs of production. Cumulative sales data, as provided in ATI's new impact monitoring system (IMS), are not helpful in an analysis of cost-effectiveness. If fact, cumulative figures presented in all ATI's reports are misleading, as they fail to show marginal increases (or decreases) and because no comparison with cumulative costs, including subsidies, is made on the other side of the equation.

Fourth, if replicability is a criterion for project development and sustainability, it is difficult to envision the Bolivia project, which includes a $1.2 million plant, being one that will be a candidate for the expansion and diffusion stages in ATI's small producer development strategy.

On the other hand, the extension type services provided by the project could be replicable in other projects, but only on a subsidized basis.

Finally, without a clear exit strategy envisioned and clearly articulated prior to project start-up (whereby ATI plans consciously to spin-off production and marketing to viable manufacturers and distributors), increased AID funding will continue to support more low impact pilot projects. It is doubtful this is what ATI and AID envisioned when the high impact "classes of small producers" concept was introduced in 1992/3. The possible impact multipliers implicit in this concept would be offset by the bottlenecks implicit in the pilot project scenario. The "scaling-up" objectives of ATI's strategies developed in 1986 and 1988 (see Lessons Learned from ATI-II, Eric Hyman, May 1994), would also be thwarted. Multiplying ATI's pilot mode would not lead to transition to the commercial, sustainable introduction of technologies into the local and international marketplace.

The central conclusion is that if "expansion" in the small producer development scheme means the successive replication of pilot projects that work on a very small, highly subsidized, non-commercial basis, then AID and ATI should carefully reconsider their positions on this issue. This is inherently contradictory to the claims of moving to commercial viability that ATI makes.

IV. FINANCIAL INITIATIVES AT ATI

A. Leveraging Fund

A major objective of the current Cooperative Agreement is to diversify ATI's financing to non-core AID funding sources. Fund raising is time consuming, requires special expertise and can be expensive. To this end, and with some encouragement from Congress, AID provided $2.0 million through two grants of $1.0 million each in 1991 and 1993, respectively. The money finances an innovative leveraging "fund" used to raise multiples of that amount from other donor organizations, partners, or collaborators. Using AID funding in this manner is very unusual, if not totally unique in the PVO community. The leveraging money is somewhat equivalent to investment capital which ATI uses in joint venture "investments" in order to be eligible to receive a much larger amount from the other partner (donor).

Under this system, for every $1.00 of AID contribution, ATI agreed to raise about $7.5 in new direct funding and another $7.5 in instrumental leveraging. ATI uses this leveraging fund to great advantage and is very successfully leveraging new money for its programs. On the basis of $1.45 million of leveraging funds committed through 1993, ATI leveraged $18.11 million in funding commitments, or a ratio of about 12 to 1 since it began this activity. Of this sum, $11.7 million are direct commitments and $6.4 million instrumental leveraging commitments, on which ATI does not earn overhead or have any fiduciary responsibility as funds flow directly to ATI's partners. Some leveraged funds originated from foundations (Ford, Rockefeller, McKnight), multi-lateral donors (UNDP and UNCDF, IFAD, IDB), other NGO's (Africa Now, FICAH), third country foreign aid programs (DANIDA, CIDA), USAID missions and central bureaus (Senegal, Mali, AID/PPC/WID, AID/AFR/ONI) and two private power companies (TAU and AES). Without a doubt, access to these development resources is a direct result of the leveraging fund.

For 1993, a total leveraging target of $7.5 million was set. ATI exceeded this target by 8.8%, raising a total of $8.16 million. By far the largest single commitment is for the India Dairy Feeding Systems ($5.2 million) project, followed by El Salvador Coffee Producers ($1.2 million) and Uganda Oilseed Producers ($0.88 million) projects.

Through this cost-sharing mechanism, ATI fosters increased collaboration, dialogue, and joint program efforts; an oft stated philosophy amongst PVO's in support of collaborative efforts, but one which has rarely been fulfilled. More importantly, access to "investment" funds is akin to having ones own donor funds. With its own resources, ATI has something to offer multi-lateral donor organizations, foundations, USAID missions, etc., which may require matching or lesser investments (contribution) in order to approve funding. Using this money, ATI secures USAID mission funding from PVO co-financing projects, which frequently require up to 25% cash contributions from PVO's seeking financing. Likewise, ATI is able to offer counterpart funds to the UNDP to jointly implement projects. For profit contractors, in addition to billing overhead and fees, never invest in the project directly. Heretofore, ATI was largely unable to access these funds as it found it difficult to provide or coordinate counterpart contributions. With increasing importance directed toward working with PVOs/NGOs by multi- and bi-lateral donor agencies, the ability to access co- or parallel-financing sums is crucial. However, with multiple donors, each with a different agenda, reporting requirements and formats, ATI may be forced to reassess its administrative and donor servicing capabilities too. As technical and development management persons divert attention from project implementation and management to raise funds for projects, field accomplishments may suffer.

B. New Initiative in Alternative Financing

ATI recognizes small producers have little access to formal capital sources to help finance business expansion or improvements in efficiency, and productivity. A solution for small producers is informal credit through savings societies or individual money lenders. The latter can charge high interest bearing no relation to the cost of capital, inflation rates, and risk. That is to say, the rates are often usurious.

ATI responds to this informal credit bottleneck by providing credit to small entrepreneurs through ATI sponsored credit programs. ATI has experimented with versions of venture capital financing for small and micro-enterprises. An equity investment is made in a small business with hope the business will become sufficiently successful in a period of two to three years to buy back the investment at a premium. Various credit and venture capital models have been employed by ATI. Their success, particularly in venture capital, appears to have been limited by a combination of the large amount of institutional development required by collaborating institutions and the relatively small numbers of beneficiaries reached. These lessons learned by ATI have induced it to explore better ways of providing small entrepreneurs with access to sorely needed capital.

ATI's most recent exploit in alternative finance is in its participation in the creation of The Development Capital Fund (DEVCAP) promoted by a consortium of six PVOs (including one Canadian and one French), all of which have small enterprise development and finance as a principal mission. Consortia members have broad experience operating micro-enterprise credit

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organizations and funds and have developed credit methodologies that are successfully making loans, monitoring them, and getting them back. The consortium also has experience in loan guarantees, equity investments, and leasing. They are diligent in trying to ensure loan funds generated do not decapitalize either through default or erosion caused by subsidized interest rates.

Once operative, DEVCAP will raise funds from socially responsible investors in the capital markets of North America for distribution through the consortium to its network of Third World small business and micro-enterprise finance programs.

DEVCAP's two planned instruments are/[20]: 1) The High Impact Loan Fund will be launched by the Calvert Social Investment Foundation with DEVCAP's collaboration. The fund anticipates borrowing $30 million at below-market rates from the general public and on-lending at least 30% of the capital to DEVCAP, which, in turn, will on-lend through member programs to solvent, profitable Third World financial institutions which address the needs of micro-entrepreneurs. 2) The Screened Emerging Entrepreneurs 50/50 Mutual Fund uses a model proven successful in Europe. DEVCAP is developing a shared return financial instrument designed to offer U.S. investors a high social return as well as a financial return. Fund assets will be invested in socially screened equities. Investors donate half of their return to DEVCAP for use in enterprise development programs of its members.

At the present time, neither of these funds is operational, however, ATI is showing through its active participation in DEVCAP that it continues to seriously pursue opportunities for creating high impact alternative financing mechanisms with potential for substantial multipliers. In this way, ATI is following two of its principal development tenets and complying with various aspects of its Cooperative Agreement, i.e., to diversify funding to non-AID sources and reaching potentially large numbers of small producers.

C. The Indian Experience

ATI has been working toward developing private sector partners to help finance projects. It has shown foresight and fund-raising prowess in the successful bid to raise over $2.3 million from two private sector energy-based companies using potential carbon reduction offset legislation to convince them to invest in a ruminant methane reduction program in India. The key is through improved diets for cattle using multi-nutrient, molasses-urea block licks that reduce methane production while at the same time improve milk yields through better energy and vitamin/mineral intake. This further demonstrates the potential for innovative use of its leveraging fund, where approximately $230,000 was used to leverage $2.3 million in direct funding and $2.9 million in indirect leveraging.

[20] These descriptions are taken directly from the DEVCAP description provided to the evaluation team by ATI

V. ATI's RESPONSIVENESS TO MID-TERM EVALUATION RECOMMENDATIONS

The mid-term evaluation/[21], carried-out from early summer 1992, resulted in a comprehensive report containing somewhere between 48 and 81 recommendations (the AID/W Project Evaluation Summary [PES]/[22] cites 48, however, this evaluation team counted 81). A list of the recommendations was extracted from the report and submitted to ATI for written comment to inform the status of each. The list (left column) together with ATI's response (right column) is presented as Annex 7 hereto. A discussion of these responses and this team's work assessing responsiveness to the mid-term recommendations is presented below in Section A.

The AID Project Evaluation Summary (PES), while acknowledging 48 recommendations were contained in the report, boiled these down to five "action decisions". The PES was signed in August 1993 by the AID evaluation officer and September 1993 by ATI, 10 months after the final mid-term report was submitted and more than a year after field work was completed. A discussion of the PES and its relation to the mid-term review follows below in Section B.

A. Recommendations and ATI responsiveness - the Mid-Term Report

ATI reports 64 recommendations "done," "being done," "more work needed," "agree," or "desirable". Six are classified as "disagree" and three as "not relevant", and eight are really recommendations for AID and the U.S. Congress. For purposes of the discussion that follows, those recommendations disagreed with or thought not-relevant will be discussed as ATI is making significant progress implementing the other 64 recommendations ostensibly agreed with.

The mid-term suggests ATI narrow it's focus in terms of classes of small producers. ATI maintains it must keep a pipeline of new activities which may become a larger part of its future program mix. While certainly ATI must continually seek new activities capable of generating direct funding support, spreading itself too thin and sub-dividing its work into too many categories/classes can also bring negative impacts. There is great wisdom in narrowing of focus to develop an aura of expertise for which name recognition is readily attached and for which meaningful reporting is facilitated.

The nine classes of small producers identified in ATI's literature and in the Cooperative Agreement are also limiting factors and to gear the management and reporting system to these nine categories is artificial and adds to reporting complexity. When combined with the Small Producer Development Paradigm mix of four phases and ongoing vs new business development, reporting could possibly require 72 classifications for the project implementation and monitoring -

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[21] Mid-term Evaluation of the Cooperative Agreement (ATI-III) between Appropriate Technology International and the Agency for International Development, Ron Stegall, Peter Bearse, Diana de Treville, Richard Solloway, Winrock International Institute for Agricultural Development, December 18, 1992 (USAID Contract PDC-1406-I-00-032-00, DO No. 18).

[22] Project Evaluation Summary, Agency for International Development, Project No. 936-5455, AID Form 1330-5, August 18, 1993.

including accounting - systems. And some projects fall into two categories, e.g., the Senegal Technology Transfer Project, which fits into market gardeners and ceramicists and metalworking artisans.

Some specific expertise or "handle" narrowing the beneficiary horizon will facilitate development of expertise and aid marketing efforts and simplify implementation monitoring and reporting. This evaluation team still believes a narrowing of focus is still necessary.

The recommendation for a senior AID staff to join ATI's board of directors, while well intentioned, would produce a direct conflict of interest and is best managed as is currently the case, i.e., ATI invites selected AID representatives to general board and/or council meetings, welcomes their contributions but does not give voting membership.

The remainder of ATI's disagreements with mid-term recommendations relate to funding and sustainability issues and are treated more extensively in the following paragraphs.

The mid-term recommended core funding be provided for up to two years after the end of the current CA, followed by gradual exposure of increasing percentages (of the core grant) to competitive solicitations. ATI's position is to repeat its worn-out assertion the organization is different, unique, has a Congressional mandate and therefore should be financed forever, in increasing amounts to at least maintain pace with inflation. In fact, several documents provided to the evaluators calculate the present value of grant financing it received in 1977 or 78 and use this number as a funding target for the next tranche. This level of funding is somewhere over $20 million per year!

If AID is willing to accept continual funding of pilot projects reaching relatively few beneficiaries at high cost for products with only limited potential for ever reaching commercial take-off, then it can accept ATI's thesis and provide funding to ever increasing demands from ATI's programs as they expand to new geographical regions and new countries. This team, however, maintains ATI has no entitlement to Federal funds and should be treated as any other private, non-profit development organization.

ATI must recognize the obvious, as a private organization, and like any other private organization that may or may not have been created with dedicated interest from several Congress persons and/or their staffs, it must sooner or later face the issue of self-sufficiency. Rather than bury its head in the sand hoping the question disappears, ATI must take steps to become self sufficient from the Federal trough. It simply cannot continue to believe it has a right to AID or other congressionally mandated funds. ATI must earn and merit these resources through performance in the field and through meeting other standards applied to Federal recipients. To ignore the self-sufficiency/sustainability issue with respect to ATI as a private organization, is irresponsible on the part of the board and management.

A start has been made. ATI's leveraging efforts with congressionally mandated funds have paid off. One lesson learned though, is that with relatively small amounts of unrestricted donor funds, the organization can raise substantial multiples of other donor funds. This vividly

demonstrates the merits, potential and impact a few million dollars of general donor or member contributions can have on income generating/fund raising for ATI's programs.

Related to the funding issue is the concept of "money bytes" introduced earlier. Piecemeal planning and implementation is akin to making long-term loans with short-term resources. Projects without clear beginnings or desired end of project status (EOPS) result in unclear purposes and meandering implementation. Complete planning is difficult if financing is not available to cover full costs of reaching a final, discrete goal. But starting a project or launching a product requiring a 10 year span with financing for only a year or two is risky. As subsequent donors are identified- and as these apply their hand-print to the effort- original goals and outputs can become blurred and original concepts, targets and desired results mutate to unrecognizable products. In a sense, this argues for larger amounts of core financing so ATI can plan and implement complete projects. But it also is true ATI could present complete proposals to donors- from prototype development through pilot stage to commercial take-off- with clear private sector performance bench-marks to ensure the product is either "privatized" or, if that is not possible by a specific date, the technology (product) is abandoned.

Somehow ATI must recognize the need to become financially independent with corporate reserves, a steady stream of income from members, donors or fees generated from performance on contract development work. Why should the American taxpayer continue to fund ATI if they do not recognize their responsibility to someday become financially independent? This should be a priority by the year 2,000, this team believes. If ATI is unwilling to plan for and take steps to achieve eventual self-sufficiency as a viable private development organization, AID must be rigid, firm and stop additional core or general support funding.

Lastly, ATI argues against doing a two year operating year budget. While recognizing the preparation of meaningful multi-year budgets may be difficult, it should be considered part of the planning process and a section of the business plan should be devoted to financial indicators. Drafting a business plan, the practice of which ATI seems to have overlooked or dropped in 1993 and 1994, can be an exciting experience for an organization if implemented in a participatory fashion with all groups and individuals discussing and setting targets and results they hope to achieve. But a plan is only as good as the effort the organization puts into making it.

With a business plan to guide efforts, management also has a tool to monitor and evaluate performance. A recommendation to this effect was made in the mid-term evaluation but seems to have become entangled with efforts to develop the impact monitoring system, which in reality is a system to evaluate effects of an intervention on beneficiary physical and/or intellectual conditions after a project is over. The mid-term report suggested a "project information system" to be used for management, monitoring, and evaluation. In fact, this target is also one of the PES action decisions which may have been overlooked as all efforts seem to have been focused on the IMS, which is quite different than a project information system. By developing solid short- and medium-term business plans with measurable targets (bench-marks) - including financial projections of expenditures, indirect costs to be earned, donor financing to be raised, fees to be earned - and insisting each project develop similar project plans and financial projections, ATI will need a system for collecting and reporting achievements which can be measured against the

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plans, in short a variance reporting system. Careful reading of the mid-term evaluation report and the PES plus the work of the evaluators, reveal this key recommendation may have gotten lost in the rush to develop an IMS, which this team believes is a Cadillac system but which may not be terribly useful for management. A typical MIS generates reliable monthly or quarterly information from systematized project and financial reporting of achievements vs plan which is used by management to pilot the organization. A yearly impact report is not that.

This team believes ATI and AID have missed the boat on this recommendation and to have developed and institutionalized such a planning process and management information system is just as important, if not more so, than developing an impact monitoring system which satisfies AID and doctoral scholars more than the everyday ATI manager interested in knowing where the organization is heading, making working decisions based on information flow, and having some bench-marks against which to measure performance of staff.

B. The AID Project Evaluation Summary vs the Mid-Term Report

As mentioned above, the mid-term evaluation contained approximately 81 recommendations as counted by this evaluation team, however, the PES mentions only 48, which are later boiled down to only five (5) action decisions. The evaluation field work was carried out in the early summer of 1992, the final report was submitted in December of 1992 and the PES was signed-off on in August 1993, more than 12 months from completion of field work and 10 months from issuance of the final report. While this team is unaware of mitigating circumstances within the R&D/EID section of AID/W, it does believe far too much time elapsed between field work, the final report and the PES. An evaluation study and report always generates momentum, expectations, and willingness to change if those wielding decision making power can strike while the iron is hot. But allowing one year to pass nullifies much of the impact such work can have.

The PES contained five action decisions as follows: 1) Make a determination on the likelihood of a two year extension of the current C.A. (3/30/93). 2) Amend the current C.A. establishing meaningful targets (11/30/93). 3) Agree on a set of operational performance indicators (11/30/93). 4) Prepare a new semi-annual reporting format (11/30/93). And 5) Develop and test in two programs a new management/information system (12/30/93). The following paragraphs briefly discuss achievement (or lack thereof) of the action decisions.

1. Make a determination on the likelihood of a two year extension of the current C.A. (3/30/93).

This evaluation team has no knowledge that a decision to extend the cooperative agreement was made. On the contrary, appearances are such a decision was postponed until completion of this evaluation. Evidence sustaining this assertion is the administrator's answer to ATI's Spring letter of requesting substantial increases in funding; wait until after the final evaluation.

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2. Amend the current C.A. establishing meaningful targets (11/30/93).

The cooperative agreement amendment process began in December 1992 with a request for an amendment on the part of ATI. Since then, almost nine months have elapsed and the amendment is still not signed (September 5, 1994). Annex 5 to this evaluation report reviews the proposed amendment and the targets contained therein. This team believes the entire process from mid-term evaluation through PES and the amendment itself, has taken far too long and still has not produced a clear document.

3. Agree on a set of operational performance indicators (11/30/93).

The operational performance indicators reflected in the CA relate to leveraging of non-core funds and impact indicators in Attachment 5 to the draft CA amendment. This evaluation team doesn't believe comprehensive performance indicators have been set or mutually agreed upon by AID and ATI.

4. Prepare a new semi-annual reporting format (11/30/93).

The reporting format, contained in the draft CA amendment document as Attachment 5 is a reflection of the work plan document preceding it. Section II above and Annex 5 of this report address this team's review of both planning and reporting formats. Sufficed to say both plan and report formats result in documents far too long, difficult to read without summary charts and/or matrices. Additionally, both the 1993 plan and report and the 1994 plan lack specific details or targets for many activities. Instead of these documents serving management and AID, this team believes both organizations have become slave to the paper-work process required to produce the extensive, wordy documents.

5. Develop and test in two programs a new management/information system (12/30/93).

While this action decision is important, this team did not see any evidence of such a system. Instead, what seems to be in place is a hybrid between impact monitoring and implementation monitoring without a good planning system to support either function. Business plans are no longer prepared and annual work plans, if to be judged by the 1993 and 1994 documents, don't uniformly indicate measurable quantified output targets.

In conclusion, the action decisions approved in the PES have only partially been completed and far behind schedule. The result is that impact of the mid-term work has been diffused and valuable momentum lost.

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VI. FINANCIAL MANAGEMENT AND ACCOUNTING

A. Scope of the Review

The financial review of ATI's Washington, D.C. headquarters was conducted during a period of 10 working days between June 20 and July 1, 1994. The work performed consisted of a review of pertinent documentation and interviews of ATI personnel. The purpose of the effort was to evaluate the adequacy of ATI's financial management and record keeping function and to review the various mechanisms used to finance ATI's ongoing activities.

B. Accounting System

ATI's computer system runs a Novell 3.11 network on a 486 server connected to 5 work-stations. The accounting software running on the network is Fund Ware, by American Fundware, a well-known, highly-sophisticated fund accounting system designed specifically for non-profit organizations. Fund Ware is widely used by a great many organizations who contract with the U.S. Government because of its powerful features that help track items relating to billings and reimbursements and compliance with federal regulations.

In addition to the Novel network, ATI equips most of its staff with stand-alone PC's. Throughout the rest of the organization, ATI's staff appear to be adequately equipped with modern hardware and up-to-date software.

The chart of accounts contains five levels of detail which are used to isolate various components of organizational activity, allowing for a high level of disaggregation. By using the built-in query function and the custom report writer, it is possible to create specialized reports, based upon one or more of the sub-codes defined within the system.

C. Accounting Procedures

Cash flow support of field operations is usually accomplished on a revolving fund basis. Field units send a periodic cash flow forecast based on their approved budgets and work plans and ATI headquarters wires sufficient funds to cover the estimated expenditures during the specified period. Once these funds have been disbursed, field units submit a report justifying the use of the advance. This is a prerequisite for authorization of the next advance.

On a monthly basis, all field operations report their summary expenses presented in a format that complies with ATI's chart of accounts. Detail is not sent. The monthly reports are simply a summary sheet listing expenses by budget category. Lacking are bank reconciliations, records of individual disbursement transactions, and cash receipts (can add up as pumps, wool or other products are sold) with supporting bank deposit records. Those projects managed directly by ATI use the organization's chart of accounts but send similar summary reports. Projects managed by third parties maintain their own internal accounting system formats, but report in summary form in accordance with ATI's requirements. Summary data is then reviewed and entered into ATI's system at headquarters for consolidation. Source documents are maintained at the field level in order that they might be available for local audit, but copies of

important transactions are generally sent to ATI headquarters along with the monthly summaries. While cash books and/or other simple project accounting systems may be in use in field projects, reports submitted didn't present data as if it originated in such a system. Field offices are audited yearly by local auditors. Washington-based project development staff reportedly don't "field audit" project financial systems, it was reported, instead, the organization relies on local audit firms. The field reporting system seems to be a rather loose, informal system which could bear some revision and tightening-up even though the entire financial system is audited by Price Waterhouse yearly.

D. Audit and Internal Controls

An annual audit is performed by the public accounting firm of Price Waterhouse. The scope of this audit covers ATI's compliance with federal requirements and standard government accounting conventions and is conducted in compliance with the provisions of OMB Circular A-133. The most recent audit report available was for the period ended December 31, 1993 and contained no material qualifications.

As part of their audit, Price Waterhouse reports on ATI's compliance with the following requirements:

1. General Requirements

General requirements include political activity, Davis-Bacon Act, civil rights, cash management, federal financial reports, allowable costs, drug-free work-place, administrative requirements. Opinion: "...no material instances of noncompliance..."

2. Specific Requirements for Major Programs

Specific requirements for major programs includes types of services allowed or unallowed, reporting, cost principles, sub-grants. Opinion: "A.T. International complied, in all material respects, with the requirements governing...[the above items].

3. Specific Requirements for Non-major Programs

Specific requirements for non-major programs include types of services allowed or unallowed, reporting, cost principles, sub-grants. Opinion: "A.T. International complied, in all material respects, with the requirements governing...[the above items']."

4. Internal Control Structure Used in Administering Federal Awards

The audit provides management with reasonable, but not absolute, assurances assets are safeguarded against loss from unauthorized use or disposition and transactions are executed in accordance with management's authorization and recorded properly to permit the preparation of financial statements in accordance with generally accepted accounting principles, and that federal award programs are managed in compliance with applicable laws and

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regulations. Opinion: "We noted no matters involving the internal control structure and its operation that we consider to be material weaknesses..."

The audit report format employed by Price Waterhouse contains numerous disclaimers whereby the firm states the verification procedures are in some cases "substantially less in scope than an audit" in terms of testing compliance with various requirements, although no material instances of non-compliance were noted.

ATI's field operations are also audited periodically by local accounting firms in the host country. Whether these firms are on AID's "approved" list is unknown and whether or not these firms audit in accord with auditing procedures meeting Federal standards is also unknown. There is no in-house internal audit function per se and headquarters technical personnel do not spend significant amounts of time reviewing financial transactions incurred in field projects, the team was told.

E. Field Management Information System

The present impact monitoring information system was first put into operation for the year 1993 and is the first time ATI gathered data on a uniform and comprehensive basis. This represents the first attempt to progress beyond earlier systems which collected information on a project-by-project basis during midterm and final evaluations and which were characterized by methodologies and indicators which had no common denominators that would permit projects to be compared against each other for the purpose of evaluating relative impacts. Rather, they focused primarily on the economic viability of the technologies employed.

The current effort emphasizes the need to obtain comparable information from projects in order to examine dissimilar projects side-by-side for the purpose of resource allocation. The new system tracks projects through their phases to quantify overall impact, weighing it in terms of the commitments that were made at the time of inception. Furthermore, the existence of a standardized reporting format encourages designers of future activities to undertake projects that have broad, measurable impact affecting large numbers of people and are more than simple technical innovations.

VII. ATI'S CAPACITY TO ABSORB SUBSTANTIAL ADDITIONAL FUNDING

ATI is currently in an expansive mode. New projects, expanded projects, different countries and new products are all part of ATI's current list of goals. As an example, those southeast Africa countries on the border of either Tanzania or Zimbabwe all appear to be prime candidates for oil press pilot projects as of this writing. Setting up ATI country offices in five or six African countries would require major additional funding. The absorption of such funding would present no conceivable problem or delay.

By the same token, additional funding could be readily absorbed by taking treadle pump production and dissemination pilot projects to such countries as Mauritania and Mali, or Diambar charcoal-saving stoves to a dozen countries. Such projections, however, would avoid answering the basic question throughout this evaluation: at what point should pilot projects, which continue

to satisfy very limited numbers of poor clients with very highly subsidized articles, be capped or phased-out?

Assuming AID is prepared to expand the ATI concept of long-term pilot projects, it could hardly find a better instrument into which to channel additional funding. ATI's quality management could absorb substantially increased funding with alacrity for its new staff, offices and subsidies.

A further avenue AID may wish to explore with ATI is additional funding for leveraging. Leveraged or parallel funding as a programming instrument strikes the evaluation team as inspired. Its use can obviously lead PVO's and NGO's to greater creativity and clout, especially with multi-lateral funding organizations only now waking to the development potential available through PVO's/NGO's. If used right, leveraging can bring both synergies and joint ventures that would never occur without such an instrument. If AID phases down core funding of ATI, it may wish to expand, pari-passu, funds for leveraging.

VIII. CURRENT ATI DEVELOPMENT STRATEGY VS AID's STRATEGIC OBJECTIVES

A. The Relationship between AID and ATI

While Congress realized a separate entity might "drift away from AID," nevertheless, ATI was created as a private non-profit corporation with flexibility to experiment with and disseminate new, different, and innovative ideas and technologies. As a private corporation, it has much more flexibility than as an office in AID. One of the original purposes of its creation was to provide AID with the benefit of its learning and institutional capability as a leading proponent of appropriate technology for development.

Attempts to keep ATI close to AID, initially, may have actually seeded conflict and antagonism as ATI grew into adolescence. Although ATI had substantial freedom to run its own programs without serious AID interference, it was still required to report to AID under the various grant arrangements and AID officials continually showed concern and interest in the organization's well-being and evolution. It seems there was, at the outset, a genuine interest to make sure ATI and AID communicated and collaborated to find ways to do small enterprise and technology transfer development. However, ATI maintained its distance from AID and seems to have tried to keep its U.S. Government ties very low key, in part, because its target NGO partners/sub-grantees, were often anti-American.

During certain periods of ATI's history, AID, the cognizant agency overseeing ATI's grant, demonstrated by its actions it was not apprised sufficiently of ATI's activities in the field and, therefore, could not discharge its oversight responsibilities adequately. AID's response was to tighten its control in the next funding cycle through a cooperative agreement, where AID has substantial involvement in project planning and monitoring.

Over time, the initial sense of uniqueness ATI created by its "Small is Beautiful" aura and the appropriate technology craze wore thin at AID and frictions intensified as AID increasingly scrutinized ATI's accomplishments and role. From ATI's perspective, because of its

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Congressional mandate to carry out the appropriate technology agenda of Section 107 of the International Development and Food Assistance Act of 1975, it believes itself to be unique and has taken the position that, while it is funded by AID, it is not a project of AID in the usual sense.

During the 1980's ATI's objectives and AID's strategies were not very congruent, and this limited the degree to which ATI could fulfil the role as a support organization for USAID missions overseas. Very few places existed where it could have fit into AID's country plans, either on the basis of presentation of unsolicited proposals or responses to RFPs. So under budgetary constraints and maneuvering among centrally funded projects to find financing, ATI, because of its perceived intransigence and non-compliance from AID's perspective, found itself under attack frequently. Its funding was severed on two occasions. But ATI survived thanks, in part, to interventions from Capitol Hill, and so does the friction.

B. Relevancy of ATI to Current AID Thinking and Strategy

The Agency's March 1994 strategy statement describes in detail its approach to development and what it considers crucial methodological and philosophical underpinnings for its development support financing. This document describes four major areas or pillars on which it will focus its programs.

ATI's approach is compatible with much of the current emphasis in AID's economic development thinking. It focusses on sustainable small enterprise development and scaling-up to achieve broad-based economic growth. It also emphasizes strengthening local institutional and managerial capacity with a cross-cutting objective of achieving permanent and broad-based impacts from its development efforts.

ATI's strategies for small producer development are congruent with AID's March 1994 Strategies for Sustainable Development. In this document even some of the wording is similar to ATI's. "Sustainable development is characterized by economic and social growth...that creates many incomes and chains of enterprises..." "Development is 'sustainable' when it permanently enhances the capacity of a society to improve its quality of life"/[23]. AID's strategy in the same breath talks of the importance of partnerships in development. Partnerships among the NGO community and the donor community, bringing people and organizations together in collaboration to assure that development efforts reflect the needs and priorities of the people. The paper also states that "AID lacks the resources to implement all the programs outlined..."/[24] Therefore, the agency concludes that "Partnership also includes leveraging. In its narrowest sense, leveraging involves the pursuit of matching funds..." and "...AID also will encourage other donors to contribute to worthy projects and to become involved in areas that deserve support but where we lack funds to operate"/[25]. The partnerships created by ATI through its leveraging activities are

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[23] Strategies for Sustainable Development, United States Agency for International Development (USAID), March 1994 p.3

[24] Ibid. p.2

[25] Ibid. p. 4

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germane to AID's concerns about collaboration, coordination, and achieving multiplier effects by using United States' foreign aid resources to capture many times the face value in additional funding for needed projects around the globe.

The first pillar is small scale business and micro-enterprise development, the objective of which is to create employment for lower income people. AID's second pillar places major emphasis on assisting countries in their efforts to build and consolidate democracy through the development of NGOs, and other organizations in civil society such as business and farmer associations. The third pillar addresses overpopulation and ensures support for the preservation of the environment. Fourthly, all AID financed projects are required to be both economically and environmentally sustainable.

ATI's projects in the countries visited and reviewed on paper by the evaluators are conceptually and strategically attuned to AID's current strategies in small enterprise development, development of community-based non-governmental organizations, and, environmental protection and preservation. ATI has been astute in the presentation of its Small Producer Development Paradigm and project descriptions and documentation recently generated reflect much of AID's current thinking.

First, ATI's small producer development strategy emphasizes assistance to small enterprise. ATI identifies, produces, and promotes new or upgraded technologies, and uses smaller firms to produce them. ATI claims to increase incomes and employment perspectives of the poor by producing technologies, or tools, which eliminate constraints to production and productivity, thus enabling small producers to reap greater economic benefits. ATI's primary beneficiaries are small producers who both manufacture and use the technologies developed by ATI.

Second, ATI's strategy calls for project "interventions" in social, market, and economic development, which gives ATI's approach an integrated aura. ATI is interested in providing tools that will assist women, particularly in the Africa programs, to become more independent economically. The development of associations of small producers is designed to enable them to get quantity discounts on business inputs and more efficient marketing which, is hoped, will increase producers' share of the products selling price. By supporting small producer development through promoting NGOs and other producer associations, AID's strategy of fostering and enhancing grass-roots democratic initiatives is addressed.

Third, ATI takes into account the importance of the environment and conservation of natural resources. Thus it is incorporating into its portfolio projects designed to promote the wise economic use of existing resources through bio-diversity programs. It also studies the treatment of effluent from cloth dying (India) and coffee production (Central America) and is working on a major effort to reduce ruminant methane production in India.

But where ATI actions differ from AID "pillars" relate to subsidization and sustainability of technologies, so amply discussed above. Overcoming this split (the sustainability and viability issue), eliminates any incongruence between AID's pillars and ATI's strategies.

C. Possibility to Resolve the Field Support Issue

Because of the high congruency between ATI's project designs, strategic, and philosophical approach and AID's current focus, the possibilities for ATI to provide much higher levels of mission field support through buy-ins or other country level grants are conceivable. This could help to reduce tensions between ATI and AID in the management of future assistance agreements through AID central, as more common ground for collaboration is found.

IX. OVERALL CONCLUSIONS

In country after country, where ATI has established and nourished its pilot projects, evidence mounts that it has hit a stone wall. The name of the wall is Phase II.

Described variously as the expansion, diffusion or commercialization phase for products tested and perfected in Phase I (pilot), Phase II has proved such a daunting obstacle that ATI has never actually mounted a campaign to breach it.

A current and pertinent analogy to ATI's world-wide great wall problem is found in a Swiss-funded, (and rival,) potato project in Nepal. The Swiss Government has been trying for over 16 years to bring more and better potatoes to more and hungrier Nepalese. Their still-pilot project will be turned over to the Nepalese Government next year with the key question never having been asked: What is the real subsidy to seed potato production in Nepal?

The petard on which ATI is hoisted is called social pricing. Pilot project prices are arbitrarily and artificially held low, in keeping with ATI's philosophy of targeting very poor people. Unfortunately, after decades of piloting, the real production costs to ATI and partners have usually escalated to the point where free market commercialization becomes out of the question. A corollary effect then cuts in. Potential local entrepreneurs become embittered over ATI subsidized price levels.

The evaluators fault ATI management on its top-heavy and centralized staffing and decision making patterns in Washington. More expatriate marketing and management talent is desperately needed overseas along with decision making authority and responsibility. The currently distorted staff distribution, as between home and overseas offices, has resulted in an embarrassing gap. At home, ATI staff are professionals. Key overseas offices are managed amateurishly.

But looming larger than all other issues in this evaluation is the matter of subsidy. And at what cost, and for what goal? The evaluators urge AID and ATI to contemplate both the real rates of subsidy to produce pilot quantities of product, and the real benefits of so doing. These subsidies are so exaggerated as to make any plan for ultimate commercialization unrealistic without scaling-down the subsidy barrier. And then, will ATI's chosen beneficiaries be willing or able to afford the appropriate technology instead of a motor driven or electrical machine. Maybe "Small is not Beautiful," after all.

The decision before AID on its future subsidy of ATI should logically be phrased as follows: How far and to what end should the U.S. Government continue to subsidize an NGO which specializes in subsidizing very small pilot projects aimed at helping the poor and which believes it has an entitlement to perpetual Federal funding?

ANNEXES

ANNEX I

- **BOLIVIA TRIP REPORT/OBSERVATIONS/COMMENTS**

ANNEX I

BOLIVIA TRIP REPORT/OBSERVATIONS/COMMENTS

I. Overview of the AIGACAA/COPROCA Project

Alpacas and llamas provide the principal source of income to very large numbers people inhabiting the highlands of the Bolivian Andes. Small herders tend troops of generally between 50 and 300 camelids (the generic name of alpacas, llamas, and vicuña) on the barren slopes above 3,000 meters (10,000 feet) altitude. Llama and alpaca wool is the primary product and is sold to intermediaries, who sell it to buyers from small spinning mills either in Bolivia or the larger Peruvian plants. Llama and alpaca meat is also consumed by indigenous populations of the highlands and together with hides is a secondary source of family income for herders. Llama and alpaca wool is, however, the primary product, with alpaca being relatively scarcer and of higher value than llamas.

Over the years, several multi-million dollar development projects financed by USAID and the World Bank, focussing on alpaca fiber processing and/or the development and marketing of knitted products have ended in failure. Successes the team know of have been small scale production and marketing of sweaters and other woven artisan-type products and have been carried out by private businesses.

As is so often the case with small producers of a primary product, because of their lack of access to the principal markets for their product, middlemen fill this function, assuming the risk and reaping the benefits accordingly. For lack of alternative markets, camelid herders traditionally sell their wool at very low prices to these intermediaries. As is the usual response, development projects are designed to organize the "target" group and to develop the potential of the beneficiaries to carry on the business aspects of their trade, thereby gaining for them the benefits of the entrepreneurial effort through receiving a better return on their product.

In 1979 the Asociación Integral de Ganaderos en Camélidos de los Andes Altos (AIGACAA) formed to provide assistance to herders in marketing wool, meat, and hides, and to improve the general socio-economic position of herders/members. By offering an alternative to the traditional intermediaries, the objective is to generate better returns for the herders. With economies of scale, and a more rational production and marketing system organized around the already established "ayllus" or community groupings of the Bolivian highlands, the small producer stood to gain.

In 1983, AIGACAA's application for a $500,000 soft loan under the Interamerican Development Bank's (IDB) small projects unit was approved and signed in December of that year. $320,000 was destined for working capital to enable AIGACAA to purchase wool. The balance of the loan was used to build and equip two fiber collection centers in Wariscata and Chinocavi, AIGACAA's marketing center and office in El Alto de La Paz, and for the purchase of vehicles and a communications system. In addition, a $76,000 technical cooperation grant was provided to hire a program director, a veterinarian, 3 veterinary technicians, and 2

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pasture technicians. The buildings were constructed and the veterinary and pasture improvement programs implemented.

The IDB project kept AIGACAA afloat through the mid-1980s and enabled the organization to provide services to its membership. During this period, other AIGACAA needs were detected, but IDB had already reached its maximum contribution under the Small Projects Unit. The project was officially declared a success. Although it did not go forward with another project, IDB was supportive and assisted AIGACAA to establish contact with ATI.

At about this time, ATI's Alpaca Production and Processing Project for the southern highlands of Peru was closing due to the general withdrawal of United States' foreign assistance from the country and the rising level of violence in the Altiplano. ATI and AIGACAA proposed to the UNDP and UNCDF a joint project endorsed by the Ministry of Planning and Coordination. An Alpaca Wool Production and Processing proposal was submitted to the above UN agencies and subsequently approved.

Following a similar approach to its Guatemala sheep wool project, and capitalizing on experiences gained in Peru, the proposal laid out an integrated set of activities corresponding to the principal constraints impeding the development of the animal fiber business.

The project is divided into two "levels", each dealing with a specific set of constraints: a) Farm level activities or those components related to livestock genetic, health, and nutritional issues: and b) industrial level corresponding to improving wool collection, classification, processing, and marketing.

The UNDP contribution of $689,600 is primarily for T/TA destined to increase the quantity and quality of fiber produced through genetic improvement of alpaca herds, improved animal health and nutrition, and improved wool shearing, classification, and processing techniques. It also supports activities to improve credit availability to herders and the organization of a credit system. ATI, AIGACA, and the UNDP share in the remaining technical assistance costs which include local project personnel.

The UNCDF provided $2,387,300 for capital expenses including the building and installations of a fiber pre-processing plant for the production of alpaca tops ($1,200,000 approx.) and another $1,051,000 for a revolving loan fund in support of farm level improvements with one component for farm improvements ($803,000) and a second component for animal purchases ($248,000).

AIGACAA established a Bolivian stock company known as Compania de Productos de Camélidos S.A. (COPROCA) to be the alpaca tops production and marketing arm of AIGACAA. Ownership of COPROCA shares (par value of $25) is distributed as follows: 40% AIGACAA; 40% individual AIGACAA members; and 20% for the general public. About 600 families have purchased shares valued at approximately US$35,000 or about 1,400 shares sold, which is the extent of their paid-in capital.

As of the evaluation team's June 1994 field visit, the project was well under way and, at the farm level, the animal husbandry, pasture and farm improvement, and general promotional and extension activities were in place and being implemented. The credit program, designed by Coopers & Lybrand, Bolivia, to finance farm and herd improvements was also functioning. At the industrial level, the fiber shearing and collection system was set up, the basic structure for the processing plant had been erected, except the roof, and the machinery was being installed. The roof was to be built upon completion of the installation of the large machinery.

II. Findings and Conclusions

In the following section, the evaluation team assesses the Bolivia alpaca project in the context of ATI, the institution. The findings and conclusions focus primarily on key subjects pertinent to ATI's overall program and are not an evaluation of the Bolivia project, per se. In section H, a series of recommendations are made for the Bolivia project specifically.

A. Application of ATI's Small Producer Development Strategy

ATI is embarked on a useful application of its subsector/small producer strategy. The AIGACAA/COPROCA project works with an important economic sector or class of small producer/herders in the Bolivian high Andes. Project components address production and marketing constraints identified along the "value chain" for this alpaca fiber subsector, i.e., from the genetic improvement of livestock and improved pasture management (which is important ecologically for sustained increases in business potential), to the processing of the alpaca fiber. Because the wool collection system is operated through AIGACAA and is part of a directly integrated chain with COPROCA's marketing system, this has enabled alpaca and llama herders are able to get better prices for their wool.

The project provides an economic alternative for people to stay on the altiplano. Attempts at relocating altiplano youth to other parts of the country in the "colonization" efforts have failed. They always return to the altiplano. Furthermore, the project is regenerating natural range that has been devastated by overgrazing through its pasture improvement efforts, having a positive environmental impact.

However, if possibilities for project replication are a criterion for project selection, then this project almost certainly would not qualify because of its very high cost and complexity of institutional arrangements. Therefore, while it has the potential to reach thousands of Bolivian camelid herders, its replicability in other parts of the world is questionable.

The evaluation team does not consider this project to represent either the expansion or diffusion of the Guatemala Wool Project, but rather an altogether new project that happens to work with animal herders and natural fiber production and processing. It seems to be as much the result of fortuitous circumstance in which ATI wanted to begin a new project building on the aborted Peru experience, AIGACAA was in need of a partner, and the IDB, in the interest of the on-going development of the project which it could not finance further through the Small Projects Unit, put the two parties together.

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While there are similarities in efforts to improve the production and quality of fiber being produced through herd genetic, health, and nutritional improvements, it is a very different kind of project from the Guatemala sheep wool project. The size and technification of the processing plant and target markets are totally different in the two projects.

B. Developing Project Partnerships

ATI's leveraging ability and its capacity to work with the UN system (UNCDF and UNDP specifically) as a broker and partnership developer have had excellent results. ATI is considered to be the "honest broker" by its Bolivian partners and has clearly demonstrated the possibility of increasing the potential impact of each dollar of USAID financing through leveraging.

This collaborative effort has also increased the UNDP and the UNCDF's understanding about how to work with NGOs. Because of their newfound experience, adjustments in contracting procedures at the level of the UNDP/OPS office in New York were made.

Another outgrowth of the ATI Bolivia project, is a growing appreciation and understanding in the UN system of the importance and necessity of including certain NGO overhead expenses in project financing packages. This has mostly been rejected in project proposals in the past, in contradiction to competing objectives for organizations to become increasingly self-sufficient and financially sustainable.

The extent to which these changes are institutionalized in the UNDP/OPS system or were simply a one-time exception remains to be seen.

Finally, ATI is viewed as an "honest broker", by the UNDP in Bolivia. The evaluation team's conclusion is that ATI's leveraging and brokering efforts have been successful in this case in terms of the financing achieved per dollar of ATI outlays.

C. Project Development, Implementation, and Leadership

The feasibility study for COPROCA is complete and the evaluators were impressed by its seriousness. It is addressing the market development of COPROCA in earnest. This is heartening, since all too frequently in supposed business development projects, marketing is not given its due importance. However, the feasibility study gives short shrift to the institutional building aspects of COPROCA or AIGACAA and even though the evaluation team visited the project over two years after initiation, plans have not even been proposed as to who the owners of the plant will be or how to adequately capitalize the business.

Notwithstanding the lack of institutional development activities, the construction and extension aspects of the project are being carried out according to plan and to the satisfaction of the UNDP. The Bolivia UNDP resident representatives see the project as a model project for UNDP in Bolivia with very good potential to become a business development success.

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The ATI field representative is well respected by his counterparts at AIGACAA and UNDP and seems to be discharging his functions in an exemplary way. The joint implementation arrangements and the co-directorship between ATI and AIGACAA is working well because of the excellent interpersonal relations that have been established and because of the experience and perspective that the ex-patriate advisor/project manager brings to the project.

D. Project Impact

The Bolivian Alpaca Wool Project is having a positive impact on herder incomes. Raw wool prices have increased by 300%,[1] the number of animals in the hands of project beneficiaries have increased as has the weight of wool produced by each animal, and through color improvement due to animal selection and selection of wool at the buying points the organization is likely to obtain better international prices for their value added product, alpaca tops.

Farmers value the services of AIGACAA, especially the loans and systematical technical assistance for their only economic endeavor, i.e., the alpaca and llama fiber/meat/hides industries. Both credit and veterinary services are being offered for the first time to herders in the Altiplano.

The Bolivia project is a winner. It is the only successful project on the Altiplano with herders, the poorest segment of the Bolivian population. The ATI field representative and his Bolivian counterparts deserve credit for the project's success to date.

E. Long-term Sustainability

Because local project personnel are ATI employees and are paid by the project, a worrisome "project mentality" has been created in which they see their involvement with AIGACAA/COPROCA coming to an end when funding runs out. They do not see themselves as AIGACAA/COPROCA employees in the future paid by the company on the basis of its on-going commercial success (sustainability). This may be due to a lack of confidence in COPROCA succeeding as a business.

The "project mentality" situation appears to have begun under the earlier IDB project where project salaries were paid under the technical assistance grant from IDB. But at least the persons were employees of AIGACCAA, not the IDB or another foreign organization.

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[1] Despite the positive sound of this, AIGACAA/COPROCA should key an eye on the possibility that the Peruvian intermediaries and Arequipa fiber producers would try to manipulate the price of alpaca wool, keeping it unprofitably high so as to decapitalized COPROCA, leaving it with large inventories of overpriced wool.

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The implication of this short-term, project to project vision of the future by project personnel is problematic. The evaluation team sees this as a possible serious impediment to institutionalizing project-trained and project-paid expertise and developing a strong organization from the shell that has been established to date. An expectation of continued financing of on-going, recurrent costs on a project to project basis is, in the evaluation team's estimation, a major threat to the enterprise development potential of the project.

F. On-going Project Needs

In the project proposal presented to the UNDP, it was recognized from the start that AIGACAA/COPROCA will require continuing technical assistance in developing the alpaca tops business. There are many business development and project implementation issues from legal organization and capital budgeting to pricing and wool purchasing policy that still need to be resolved. AIGACAA/COPROCA personnel and directors need to understand these subjects in order for their organizations to develop into strong, self-sufficient, and sustainable institutions. The evaluation team concluded that continued institutional development of AIGACAA and COPROCA were essential to making this multi-million dollar investment pay off. Continued efforts in this area are critical, considerations which the team brought up at the UNDP debriefing in La Paz.

A detailed listing of business development and project implementation observations and recommendations can be found in Section H of this report.

G. Relationship with USAID

The USAID/Bolivia mission director and chief of the agricultural office didn't have any feeling for the alpaca herders project and they stated in interviews that the project "was off their radar screens." Only because the chief of party/co-director established good social relations with a mission direct hire person did USAID hear anything regarding the project. The ATI/W personnel visiting Bolivia with the evaluation team did not call on the Mission.

H. List of Recommendations for ATI Bolivia Program

1. Project Mentality: It seemed apparent that local project staff had a project mentality and weren't really thinking of this project as being a long-term commitment to develop a new private sector industry in Bolivia which will improve herder incomes and create permanent employment opportunities. This really must be changed and current personnel should begin to think of their current jobs as the beginning of a long-term opportunity for stable employment. In this vein, the following recommendations are made:

   a. All local staff should be switched to the AIGACAA or COPROCA payrolls immediately. A determination as to which staff functions should be "assigned" to AIGACAA and which functions should be assigned to COPROCA is going to be important. Considering the way a gremial might

act in lobbying for issues dear to the hearts of the herders, we believe most functions should be assigned to COPROCA as part and parcel to the business aspects relating to marketing of farmer outputs, i.e., alpaca and llama wool, meat, hides and manure and possibly some sheep products.

Member and public relations, promotion, training, environmental awareness, etc. and other programs which are not strictly in the value added chain and might not be self-sustaining/financing could be assigned to AIGACAA. These activities might be financed through collection of dues as well as through a return on AIGACAA's investments (including COPROCA shares -which probably should be preferred shares to ensure a fixed income - and possibly other investments).

The other program functions, i.e., credit, extension, raw material acquisition, manufacturing and marketing are all logically connected to COPROCA and should be part of the for-profit business.

b. The ATI contract should be amended to contemplate this switch and the "costs" of these programs should begin to be run through COPROCA and AIGACAA accounting systems.

c. Each organization should have a general manager and whatever staff which might be needed to carry out the programs and the boards of each should begin to deal with board issues related to implementing the respective business plans and program of work. This would be the beginning of the institutional strengthening component of the Andes Camelid Program.

d. Financing should be programmed on a declining basis starting now so that initially each organization is 100% subsidized but then by the year 2,000 is completely self financed.

e. The current "project" accounting system should be converted to a system capable of producing financial statements for COPROCA and AIGACAA in accord with normal Bolivian accounting standards, including balance sheets, P&L statements, origin and use of funds, shareholder accounts, transactions with members (sales of wool, meat, hides to COPROCA and purchases of veterinary medicines and other goods/services from COPROCA), dues, etc. Project accounts can also be produced for the UNDP and ATI to satisfy disbursements, etc

2. Institutional Strengthening: There should be an institutional strengthening development program contemplating development and strengthening of both AIGACAA and COPROCA and which would include the following essential components:

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a. Resident technical assistance to both organizations with a person with experience and/or capabilities in association/farmer owned business management, finance, board responsibilities and role, member relations, etc.

b. Training for farmer/herder members in basic business and association concepts and methods: the role of capital, assets, responsibilities of members, the need for continual investments, farmer owned business/association marketing techniques, risk and risk avoidance for non-profit service organizations and farmer owned businesses, etc. This would necessarily include international study visits to study other farmer owned businesses, associations, etc. Possible target countries would be Argentina, U.S., possibly Chile and Costa Rica.

c. Training for board members and future leaders in the proper role of a board of directors; how to conduct meetings and to evaluate different business options/alternatives; how to hire, supervise and evaluate the performance of the general manager; conflict resolution amongst the membership; the basics of the animal fiber industry; public relations and member relations programs and issues, etc. This would necessarily include international study visits to study other farmer owned businesses, associations, etc. Possible target countries would be Argentina, U.S., possibly Chile and Costa Rica.

d. Short-term international and local technical assistance for trouble shooting specific issues and addressing specific topics such as how to read financial statements, designing a good member relations program, computer training or software development specialists, member surveys, etc.

e. Financial assistance on a declining basis to absorb payroll, program and other costs not able to be borne by income from the organizations.

f. Commodities including one or more vehicles for the expatriate resident advisor, computers, books, video equipment, etc.

g. Possibly installing the llama de-hairing machine and line, helping to finance a meat and hide business and possibly other spin-off businesses.

These ideas were presented to USAID as a possible involvement in the Altiplano program and are considered essential to consolidating AIGACAA and COPROCA (and possibly an ICI to mobilize savings and make loans).

3. Credit Program and ICI Status: AIGACAA and/or COPROCA should seriously pursue ICI status, possibly as a separate subsidiary organization. As an ICI, savings could be mobilized, and short-term "personal" or business loans could be issued using savings

proceeds, in addition to the current relatively long-term (7 ½ years) loans. It appears the interest rates may be too low (possible decapitalization of the credit fund when in fact it should grow). But yet herders might not be willing to take-out relatively expensive local currency loans. In order to verify the maximum short- and long-term credit demand and interest in obtaining a loan, revised farm budgets should be worked-up for different combinations of animals and pastures to do an interest rate sensitivity analysis. Based on this analysis, interest rates may require adjustment.

4. Other Camilid Programs: Marketing of meat, hides, llama wool are necessary if AIGACAA and COPROCA are to be full service organizations and to have various sources of income besides alpaca Tops. This will also spread risk over several commodities and possible result in substantial income streams for COPROCA. Or, at least each service or business opportunity should break even, thereby making AIGACAA and COPROCA more valuable to herders in the Altiplano.

5. Business Oriented: veterinary store should be more commercial and physically situated to be readily accessible to the public and it should possibly expand to include other goods related to herder needs, possibly even some consumer items. Sales to members/stock holders should be recorded separately from sales to non-members.

6. Global Business Picture: The credit and extension programs are really both part of and a necessary component of the plant's raw fiber acquisition costs. The purpose of these programs are to ensure good and easy procurement of raw fiber or the right quality and color, at the right time and in sufficient amounts to keep the factory running at a profitable level. So the whole package should be considered as an integral part of the business and costed in the "enterprise" budget. Income projections should include: income from "Tops" sales, interest income, savings mobilization, share purchase, manure sales, etc., while expenses would be the costs of running the factory, marketing costs, fiber acquisition costs, credit personnel costs, extension personnel costs, marketing costs, etc. Then, at different interest rate projections, levels of extension services, wool prices, etc. project staff would have a clearer picture of what they have to charge (interest rates) to break even and what costs have to be controlled in order to obtain a good return on the investment, etc.

7. Possible Peruvian Action to Break the Bolivian Business: Are the Peruvians bidding-up the price in an attempt to manipulate the market and break the Bolivian business? The team is worried about assuming too much risk by buying large quantities of alpaca fiber at relatively high prices and storing this. The "Tops" market is a niche or thin market and naturally colored "Tops" are even thinner. Are there ways to reduce this risk? The following are some ideas:

   a. Marketing cooperatively, i.e., partial consignment with final liquidations based on end of year profits. As much risk as possible should be eliminated in farmer owned businesses or non-profit service organizations. Therefore, if the business takes title to and ownership of an agricultural commodity whose price fluctuates, they are subjecting

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themselves to risk. This risk can be avoided by receiving commodities on a consignment basis and remains with the farmer. By doing this, the business is more likely to survive long-term, although it is a more conservative approach.

b. Bonded warehouses where either farmers and/or AIGACAA (possibly COPROCA?) deposit fiber, obtain a warehouse receipt, discount that receipt in a bank and then when the fiber is needed, COPROCA buys it at the going price from AIGACAA, who markets on behalf of the farmers and which holds the warehouse receipts.

c. Monitor carefully the international fiber market to ensure the long-term (at least the next 6 months) trend is upward so as to buy as much now when the fiber is cheap. Or, conversely, if the market information system indicates the market is being artificially driven up by the Peruvians in an attempt to manipulate the market and break AIGACAA, then possibly AIGACAA should sell its alpaca fiber at the artificially high price and then when the market crashes buy back fiber at the lower price. (Note: This would send a negative signal to the alpaca herders!)

8. Capitalization in the Business: Normal financial analysis tells us that in farmer owned businesses the fixed asset account should be about equal to the stock holder equity account. Therefore, if the fixed assets donated by the UNCDP/UNDP amount to $1.4 million, farmer equity should reach this level and grow as the need for equity capital also grows. Therefore a serious attempt needs to be made to raise significant amounts of farmer capital. Several methods seem apparent:

a. Reduce the value of each share to U.S.$ 1.00, or $5.00 instead of $25. This will make them more accessible to more people (must consider the cost of printing stock certificates).

b. Give herders opportunities to buy shares when buying vet. supplies, when paying interest and/or principal on their loans. All dividends (or possibly 80%) should be retained and allocated in new shares.

c. Conduct share purchasing promotional programs in public markets and other gathering places by providing incentives and/or prizes for those who buy a certain number of shares before a certain date.

d. Sell shares to school children or to schools and mobilize share purchase programs in the schools for this purpose.

e. Sell shares at all public markets in the AIGACAA area and open membership drives at these same markets.

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easier and cheaper for members. Members should be able to avail themselves of services on credit and have discounts for cash purchases greater than for non-members (For example: discount on cash purchase for members - 10%; discount on cash purchases for non-members - 5%; credit - members buy on credit (30 days) at full price without interest charges and non-members are unable to buy on credit). Members should have first priority on veterinary service/time and only when he/she is not busy should vet. services be made available for a minimum price to non-members.

14. Procedure for Becoming a Member: Both AIGACAA and COPROCA should make it very easy to become members and/or shareholders. Membership fees should be very reasonable and payable as a deduction from the first loan or in installments. The idea is to get herders to join, not drive them away with complicated membership procedures. AIGACAA needs to have as many members as possible so as to represent the herders of the Altiplano. But all AIGACAA members do not necessarily have to be shareholders in COPROCA. Likewise, all COPROCA members do not necessarily have to be members of AIGACAA, although it would be better if all the herders were members of both organizations.

15. Financing of AIGACAA: As a non-profit, non-stock service organization, AIGACAA should probably be financed from annual dues, grants received for specific projects and programs, income from investments (in COPROCA and possibly in other higher return or possibly less risky but lower return investments), and fees for services.

16. Procurement of Animals: What is the point of buying animals from neighboring farmers? The credit is just being used to move existing animals from a farmer without credit resources to a farmer with credit resources. This doesn't make sense. The animals should be bought from outside the membership area, from Peru, etc. By moving animals from a herder without resources from program credits to a herder with resources may create deeper divisions in the very communities AIGACAA s trying to unite. Furthermore, by buying animals from outside the program area, new blood lines will be introduced, which can only improve health, quality, etc., especially if the new animals are good quality.

17. Credit Related to Savings and/or Investments: In order for a potential borrower to actually receive a loan, he/she should be a shareholder in COPROCA and a member of AIGACAA. The cost of the membership dues and the initial share(s) could be deducted from the first loan disbursement and passed to AIGACAA and COPROCA. Later, the share:loan ratio could be increased so that each year (or less) borrowers would have to purchase additional shares as they amortize interest and begin paying on the loan principal. Use the borrowing process to leverage share purchase. For example: some savings and loan cooperatives relate borrowing to the amount of "savings" or share capital a member owns. In some S & L associations, borrowers can only borrow up to five (5) or perhaps up to ten (10) times the amount of share capital. By somehow relating borrowing capacity to the amount of equity a herder owns in CAPROCA could be a powerful incentive for share purchase. Shares could then become part of the collateral to cover a loan in case of default.

18. Capital Budgeting Techniques: Capital budgeting is a process of estimating the equity capital requirements of a company (usually used in agricultural cooperatives) based on pro-forma or "ideal" financial statements. Once the amount of equity capital required to have a healthy balance sheet has been determined, and the amount of fiber to be marketed by the organization planned-for in the theoretical financial statements has also been determined, the theoretical ratio of pounds of fiber per unit of equity is calculated. Then, based on average wool deliveries over a selected period (usually averages over past three to five years), the theoretical amount of individual member equity is calculated. These theoretical balances are compared with actual share ownership. Herders with too few shares are required to buy additional shares and herders with too many shares may be required to redeem some shares. For those herders who have to buy additional shares (usually the case), a share acquisition plan is negotiated with each member/stockholder in which an amount is deducted from each fiber delivery for share acquisition. This goes on until each herder owns the proper amount of share capital based on average fiber deliveries.

    Subsequently, new pro forma financial statements are calculated and another capital budget plan is prepared and the process is repeated. In this manner, share distribution and ownership is in the hands of those who make use of the services of the organization and even if dividends are paid on a per share basis, they will end-up in proportion to fiber deliveries, the most important indicator and goal of the entire extension and credit program.

19. VOCA Volunteers: Volunteers in Overseas Cooperative Assistance is a Cooperative Development Organization implementing volunteer Farmer to Farmer programs the world over. They may have an office and an AID financed program in Bolivia. Their U.S. address is: VOCA, 50 F Street NW Suite 1075, Washington DC 20001; Tel: (202)383-4961, Fax: (202)783-7204. Contact persons would be Don Cohen, President; Joan Leavette, Vice President. VOCA is able to program experienced volunteers in all aspects of agriculture, association and cooperative development. They have excellent volunteers in member relations, capital budgeting, association management and finance, development and training of boards of directors, cooperative marketing and specifically wool marketing (pools), etc. Although the individuals volunteer their services, program sponsors are usually asked to fully or partially finance travel and per diem, other miscellaneous volunteer and/or Washington cots (recruitment costs, visa, airport tax, etc.), plus VOCA overhead. It is highly recommend ATI get in contact with VOCA to determine if the two organizations can work together to benefit Third World farmers and in particular Bolivian herders.

20. Membership and Marketing Agreement: There should be a written membership and marketing agreement between each member and AIGACAA/COPROCA. Each year new membership/marketing agreements should be signed. In these agreements, duties and responsibilities of both the member and the organization are specified, fiber prices and payment terms are stated, amount of wool (fiber) each member agrees to market through COPROCA (or AIGACAA) is stated (or the wool from xx animals), the marketing methodology is spelled-out (partial consignment, cash on delivery, etc.),

f. Have COPROCA and AIGACAA staff initiate payroll deductions to purchase stock.

g. Initiate a check-off program so that when farmers sell wool, hides, meat, or manure to either AIGACAA or COPROCA, they set-aside some funds for share purchase.

9. Member Relations Program: There is need for a good member relations and outreach program to promote membership, sell the services, capture complaints and issues and begin to raise member knowledge levels and participation in representational activities.

10. Competition with Members: AIGACAA needs to ensure its 4,500 acre farm does not compete with their members. The farm must continue to serve as a service oriented activity. If anything, they could rent pasture to other farmers or try reforestation and range restoration activities as demonstration to other herders. By going into llama and alpaca production, they will be seen as competing with members, which will turn-off other herders and cause them to loose interest in AIGACAA.

11. Over Population, Sheep: By giving farmers loans to buy more animals and improve pastures, the project is running the risk of over populating the Altiplano and further degrading pastures unless there is a serious program to cull animals with sub-standard colors or other defects. Herders keep animals as a form of savings and wealth is likely to be measured in terms of numbers of animals. Herders must be taught that there is more income and long-term value in fewer, good quality, well fed animals and properly managed range land than in over populated ranges with large numbers of scraggly, poor quality animals. Furthermore, sheep should be eliminated from the Altiplano and some kind of incentive program to reduce the number of sheep should be started. Perhaps by offering a share in COPROCA (after reducing the value of the shares to $1.00 or $5.00) for each sheep disposed of and couple this to a sheep procurement program where AIGACAA buys sheep and sells them in another part of the country or delivers them for slaughter.

12. AIGACAA Preferred Shares: It might be a good idea to have AIGACAA's shares in COPROCA as "preferred shares" to guarantee an income to the association as opposed to common shares which might not receive dividends. Furthermore, if earnings are distributed on the basis of amount of fiber delivered (or other business done with COPROCA), which is an excellent idea, AIGACAA will likely be delivering small amounts of fiber (from its genetic improvement farm cum breeding station) and therefore might not receive much income from COPROCA. By having preferred shares they'll get a standard dividend and these will still be considered "capital" by banks, etc. This would truly put the control of the business in the hands of fiber producers and employees of COPROCA. AIGACAA could have several token voting shares and one or more seats on the board as they would hold substantial preferred shares.

13. Service to Members: In offering services to alpaca and llama herders, both AIGACAA and COPROCA should serve both members and non-members. However, it should be

quality standards and timing of deliveries are established, discounts for impurities/mixed colors are spelled-out as are penalties for failure to perform (both parties), etc. The agreement is signed by both the member and his/her spouse (so both parties are committed) and the general manager of the wool marketing entity (COPROCA or AIGACAA). These agreements must be honored and if they are violated, the association or company should have recourse to fines, etc. The agreements should probably be signed on official paper and be registered so they are legal. The marketing entity should pay for costs related to registration.

The old American saying that operating a marketing cooperative without a written and registered marketing agreement with each member is like having a bank without a safe (Administrar una cooperativa de mercadeo sin un contrato de mercadeo con cada socio es como tratar de manejar un banco sin bóveda).

21. The Draft Credit Report "El Estudio Sobre los Costos...": This study should be checked by another party. It seemed to the evaluation team that the 9% interest rate recommended is not sufficient to provide an adequate return on the loan portfolio investment to ensure growth in accord with potential need as new members are added and as inflation reduces the purchasing power of the portfolio.

    The loan portfolio/fund are assets of AIGACAA and/or COPROCA. The board of directors and management of each organization has a fiduciary responsibility to conserve the asset and generate an adequate net return on the asset. This return should at least be what could be obtained in an alternative investment (opportunity cost), for example: purchasing GOB Bonds or T-Bills, depositing funds in a fixed-term savings certificate, etc. Just to cover expenses is insufficient and is not living up to the board of directors' fiduciary responsibility. Furthermore, the loan demand will increase with increasing membership. All members who qualify and have a good credit record (rating) should be eligible for a loan. If there are insufficient funds, credit rationing mechanisms will have to be adopted which isn't doing anybody a favor. Therefore to provide equality of credit opportunity, the loan fund must grow to match effective credit demand (and membership growth). When this likely increased demand due to additional members and inflation results in insufficient resources, the association and marketing company will be sending the wrong signals to the membership.

    So in order to be responsive directors and demonstrate good management, the evaluation team believes the 9% suggested interest rate on loans given by AIGACAA/COPROCA may be insufficient to ensure growth in the revolving credit fund and an acceptable net financial return on the assets employed.

ANNEX II

- **SENEGAL TRIP REPORT/OBSERVATIONS**

ANNEX II

SENEGAL TRIP REPORT/OBSERVATIONS

July 28, 1994

A. GENERAL OBSERVATIONS/COMMENTS

1. Legal Status in Senegal - ATI registered as an NGO with the Ministry of Women and Child Affairs which entailed signing a memorandum of understanding. It operates as a branch of a U.S. PVO and is known as ATI/Senegal. This gives certain status, e.g., duty free entry of project materials and equipment, tax free status of foreign personnel, etc. They do not have a local board of directors or advisory committee but operate simply as a branch of ATI/W. Therefore, all the ATI employees (14 Senegalese) in reality and legally are employees of the foreign organization, which is responsible and liable under local law. This implies some risk, which we assume ATI/W has provided for. It also implies there is no body of local wisdom guiding, orienting and supporting the organization and being there in the event some unforseen "emergency" besets the operation. While having a local board or advisory committee can slow things down, it can also assist in making contacts and ground the organization's path in reality. This concept would seem more important in instances where most of the decisions are being made in Washington and implemented via remote control or when the Washington-based staff person is temporarily on the scene.

2. Costs & Benefits - The ATI Senegal project has developed and sold foot operated pumps and charcoal saving stoves which seem to have wide applications amongst large numbers of small producers and low-income and/or resource households, selected artisans, and marketing agents. In a little over three years ATI has introduced several new technologies in the private sector, albeit with heavy subsidies, has identified interested artisans, trained and assisted them set-up manufacturing and distribution systems and has "popularized" the treadle pump and Diambar stove so they are sought-after items. Even USAID and World Bank local staff (probably in the "well paid/middle class") have stoves which they use, and international horticulture specialists and at least one commercial farm supply (primarily seeds) input dealer consider the pumps to be appropriate and better suited to African conditions than motor pumps, which spend more time in the repair shop than serving their owners.

   Recent economic analyses prepared by ATI/Washington have shown an investment of $1.00 in the treadle pump component may produce an average economic return of $5.07 (benefits to market gardeners in Senegal $3,313,473 at

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a project component cost of $652,922) over the five year estimated life of the pump, and similarly, a $1.00 investment in the Diambar stove component will produce an average economic return of $2.36 over the two year useful life of the stove (benefits to stove purchasers in Senegal $1,675,887 at a project component cost of $710,955).

The cost/benefit analysis above is based on a total direct project investment of $1,363,877 of USAID/Senegal and ATI/W funds, 762 pumps and 11,790 stoves sold since the beginning of the project. It does not apparently discriminate as to large and/or small pumps or stoves nor does it contemplate a factor for broken and/or out-of-service pumps and/or stoves to the best of our knowledge. Nor does the analysis consider Senegal's share of the $3.0 million plus ATI/W costs allocated to field programs in reports to AID/W.

But these analyses are economic and have little relationship to what it might cost to go into business producing stoves and pumps without assistance from USAID and the project. In discussions with pump manufacturers they thought prices might have to double if they had to face all the costs presently absorbed by the project. In fact one manufacturer of pumps thought just by employing a sales person and hiring a truck to deliver and install the pumps, his cost would double, as a minimum.

A more telling analysis relates to the total cost of the project pro-rated over the number of stoves and pumps produced to date to determine a real per pump and per stove cost. Using the numbers presented above plus the sales price of the individual "tools" the resultant cost of each pump works out to approximately $940± while the cost of each large stove is estimated to be $69± and the small stove is $64±!! This assumes, arbitrarily, that 75% of the stoves were large and 25% small and does not include any allocation for ATI/Washington costs not already charged to the Senegal project.

If a private individual entrepreneur wishes to go into the pump or stove business on his/her own and would have to cover the total research and development costs, he/she would have to charge more than 11 times the current selling price of the pumps, 8 times the selling price for a large stove and 17 times the selling price for a small stove. Of course the argument can be made that the research and development costs of the pump and stoves would not have to be amortised over the items produced as these costs have already been incurred by ATI with AID resources. True, but other heavy project subsidies include advertising, transport of the pumps, training, extension, etc. would have to pro-rated over the tools manufactured. While no estimates were made for this level of subsidy, it would seem safe to estimate that each tool would, at a minimum, cost twice the current price. Would this price these appropriate tools out of the market?

3. Management of Local ATI Office - Until late 1993 the ATI/Senegal office was managed and led by an American, Ed Perry. Current appearances and impressions are that the local office staff are demoralized, lack enthusiasm and entrepreneurial spirit. The ATI Senegal office didn't exude a dynamic feeling and it didn't seem like a project office ready for "take-off" and wide dissemination of several important new technological products to large numbers of resource poor people. What would the marketing/new product development office of General Foods look like at launching of two new consumer products?

   ATI retains ACA to provide management and accounting services to their program in Senegal. This includes financial management, secretarial services, office space, telephones, etc.

   Our appointments in Dakar were not well made and addresses, phone numbers, etc. were wrong on a couple of occasions. The ATI office tried unsuccessfully for several days to obtain an appointment with ACEP (local micro & small enterprise credit project funded by USAID) without success. When a member of the team went, accompanied by the technical coordinator, we waited for an hour and finally left. Later we were informed the only way to obtain an appointment with this AID funded institution was to go through the USAID Mission!

   On another occasion, the address of the Canadian organization CECI was wrong and when we finally did get through on the phone, they had never heard of the ATI evaluation team, but they did know of the Diambar stove. Ibrahima Diaby, Perry's "replacement," supposedly made the appointment and he personally gave us the address and explained how to reach their office (in the Fouad Building). The team ended-up at a Canadian aid organization which had closed at noon!

   One group interviewed reported that Diaby was not the right person to undertake the expansion phase of this project as he lacked entrepreneurial spirit and marketing experience, i.e., he would be more comfortable in a bureaucrats position. This frank appraisal seemed consistent with Diaby's International Labor Organization (ILO) background.

   The ATI Senegal quarterly report for the period 1/1/94 - 3/31/94 (in French) was reviewed as was a typical financial report. Both appeared simplistic, lacking detail and information that would help understand what was going-on in the program and how the funds were actually spent.

4. Relationships & Attitudes - While most "movers and shakers" the evaluation team met seemed to know Ed Perry, Ibrahima Diaby, the local ATI representative, seemed to be unknown and not have relationships with many foreign organizations. Diaby had made a deal with RADICOM, the commercial company of a regional NGO, to import 40 square meters of the white polyester cloth used

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to cover vegetable seed beds and/or gardens. But he failed to personally meet the director/manager nor to explore other possible targets of business opportunity. When the evaluation team explained a little about ATI and the Senegal project to Mr. Moctar Fall, the director or manager of RADICOM, he immediately saw several possibilities of working together on business/trade related items. Specifically, exporting both the stoves and pumps to neighboring countries seemed like a business opportunity to Mr. Fall and he thought he would meet face-to-face with Mr. Diaby to explore this a bit more.

Another characteristic that seemed very apparent was the lack of enterprise mentality. There seems to be a distrust of the "private sector" that pervades the modus operandi of ATI and ATI Senegal. There does not seem to be a drive to take an idea or product commercial based on the profit motive; ATI seems more concerned with "controlling" the product, the price and the distribution process. Marketing efforts, really a misnomer here, typically seeks opportunities through the NGO network. ATI's contact with RADICOM to import the polyester material used to cover seed beds (one of the other appropriate technologies) to speed-up healthy development of transplant seedlings is an example of the search to use non-traditional business networks and systems. Similarly, the next phase of ATI's Senegal project awaiting funding by the PVO Co-financing Project, corroborates this trend in ATI to identify other NGO's to work with to popularize and widely disseminate the pump, stove and other technologies.

Is this approach taken by ATI on the premise that the private sector would not have the poor's interests at heart? Does ATI believe that through commercial manufacturing and distribution, prices would go up and the "target" population would be priced out of the market? Then one must ask the rhetorical question regarding the purpose of the effort, i.e., is it the goal to serve the poorest segments of the population and perhaps institutionalize the American NGO based on perpetual subsidies, or is it to sell stoves and pumps and ensure each stove/pump is serving its purpose? How will commercial take-off be achieved at commercially profitable prices? If continual heavy subsidy is contemplated, ATI will continue to be necessary, will continue to earn overhead, and will continue to require large amounts of money to carry the world's poor indefinitely!

5. Marketing, Manufacturing and Manufacturer Selection - while the project has made progress developing the manufacturing of the stove, pump and other lesser technologies, it has not been particularly successful marketing the items. Bottlenecks have cropped-up, e.g., credit and distribution networks and these haven't been resolved satisfactorily. TV adds were placed but the commercial didn't apparently tell where the stoves or pumps could be bought (At least those persons remembering the commercials mentioned names/addresses were not given). The women's groupements selling stoves don't have working capital, they sell a lot of other items which reportedly produce greater financial returns than

stoves, and their general purpose seems to be more social interaction than business.

It seems neither the current pump manufacturers nor the stove artisans can afford to build pumps/stoves for stock nor undertake a real marketing effort as they don't have access to borrowed working capital nor resources of their own. Is it that commercial manufacturing and distribution of the two technologies isn't sufficiently profitable or attractive for real entrepreneurs without project subsidies? Or is it that prices of the final product, which appear to be calculated/derived by ATI and contemplate a "fair" return on investment in their eyes, just aren't sufficient to compensate a more commercially minded manufacturer or distributor? This was also questioned in the team's meeting at USAID/S. On repeated occasions project staff emphasized low cost was necessary in order to position the products within reach of large numbers of low resource people. In fact old used sheet metal from discarded (nothing appears to ever be discarded in Senegal, and even the most rusty piece of old metal has some value and is priced accordingly) refrigerators is used to manufacture the stoves; reason: if new sheet metal is used the cost goes out of reach of the target group. Additional comments appear under the Sustainability Chapter below.

The team observed apparently well stocked household and kitchen goods manufacturer shops in the immediate neighborhood of more than one Diambar stove producer. These shops had substantial inventories of traditional stoves, cast aluminum pots and other household items. Vendors from these shops approached the team asking if we were interested in buying a stove, pots, etc. as we navigated the crowded streets where their shops were located. The project stove manufacturers we were taken to, on the other hand, were located in back alley-ways or non-commercial side streets, did not display their products and seemingly only manufactured stoves on an order basis.

The team attended an impressive stove demonstration in a large urban neighborhood in Dakar (Peking) and while the show was good and there was plenty of local color, enthusiasm and activity, only five stoves were sold (and we were told they were sold before the show even got underway). Nobody was working the crowd, large numbers of stoves were not available for sale; nor were raffle's or other contests held either.

From ATI's own blueprint, as well as from the evaluator's understanding of the current pump and stove scenes in Senegal, the time is now for entering phase II - diffusion and expansion of sales. With the departure of Ed Perry, a seemingly only partly qualified head of ATI marketing on staff, and existing bottlenecks in both credit and production, ATI Senegal appears still very far away from a hard hitting marketing effort. The evaluators came away sure that ATI was not ready

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for the moment to move into phase II, with or without the PVO Co-financing (Transcentury) grant, now apparently imminent. But we were unsure if it even is the intention of the ATI resident staff to push forward aggressively into mass marketing (and the consequent mass production). There was even some suspicion the USAID mission might not be fully aboard the idea of a breakthrough effort with the stove.

If the ATI intent is indeed to try mass merchandising of the Diambar stove, this would imply an increased effort to mobilize partners, involve new credit sources, find better distribution outlets and methods, larger and more efficient manufacturers, etc. This would seem to make it imperative that ATI field a staff member who is a professional marketeer. Not that the very highly regarded and well broken-in Ed Perry could not fill that marketing slot. He might. But the current ATI senior representative in Dakar does not have the kind of marketing needed to move to Phase II in his background or his style.

In summary, it would be difficult to find any higher priority for ATI in Senegal today than a resident superstar in private sector marketing - whether (s)he were resident representative and expatriate or just a senior staff member. The evaluators do not see ATI moving briskly to phase II without this key marketing figure.

6. Entrepreneurship - there is an NGO pall/cloud hanging over the project, which seems permeated with NGO oriented (as opposed to private business oriented), non-profit and poorest of the poor mentality. While the evaluation team is not belittling this attitude or mission, we question whether it is the right mentality to develop and market a commercial product, i.e., pumps, stoves, wrapped filters, insulated food baskets, the improved mortar for food grinding, etc. The stove manufacturers seemed like the smallest, poorest artisans in their respective neighborhoods, even though the main neighborhood streets were bustling with tinkerers, cast aluminum pot makers, etc. The non-project artisans/manufacturers had plenty of traditional stoves and other wares stacked in rows on the street, yet the ATI stove manufacturers were down a back alley or on a non-commercial side street. Both stove manufacturers visited seemed non-entrepreneurial, had one or two 10 - 12 year old's pounding unimpressively on an old rusted railroad track, or displayed what appeared to be specially produced stoves neatly stacked in an empty room. While most of the pump manufacturers visited seemed more substantial, they still didn't have sufficient resources to build several pumps for inventory and establish a regular marketing effort... They just didn't look like shops where hundreds of stoves and/or pumps are turned out on a regular basis and which would eventually be capable and willing to "explode" into the commercial world with appropriate products needed and wanted by large numbers of people in Senegal.

7. Commercial Linkages/Advertising - As mentioned above, the little mass media advertising undertaken by the project didn't apparently instruct viewers where to go to purchase the stoves/pumps. As these are generally only made to order and not freely available to the general public in numerous outlets, the advertisements raised expectations and interest but didn't permit or facilitate substantial sales; definitely not a usual commercial practice. One would think if the object of the game is to sell stoves, pumps and other appropriate technologies, advertising wouldn't tell the story and promote the product unless stocks were available to buy and people were told where to go; that is of course, unless the advertising was really destined to be seen/heard by the donors.

   If the project had gone commercial with two or three relatively business-like manufacturers with adequate investment and working capital, what might the sales records looked like? Would people still have to "work" to find a stove and/or pump?

8. Credit, Credit Management and Linkages - In both the mid-term evaluation conducted by Eric Hyman and the Development Associates evaluation of the Mission's Technology Transfer Project, credit was listed as perhaps the most important constraint to widespread expansion and diffusion of the stoves and pumps. Yet little seems to have been done by ATI to ameliorate this constraint, although one or two manufacturers had managed to get some credit - one through his local artisan credit union and another at the ACEP project (a USAID financed micro- and small-enterprise credit project) and later from a commercial bank. Consumer credit - whether rural for pump purchase or urban for stove purchase, seems not to exist as informal savings schemes known locally as "tontin" seem common. Yet it was learned a credit union (savings and loan cooperative) movement of sorts exists in Senegal and that apparently the World Council of Credit Unions (WOCCU) had received a grant from USAID to strengthen the movement.

   Furthermore, artisan societies or associations apparently exist throughout Senegal and several have credit unions attached to these guild-like organizations. In the Saint Louis area, apparently the artisan society has been instrumental assisting members bulk purchase raw materials and their credit union has made loans to at least one pump manufacturer.

   Likewise it was learned that a national association-like organization was or had been formed amongst pump (and stove?) fabricators. This organization is apparently bulk purchasing steel and leather at least and each member contributes CFA/. 35,000 per quarter for bulk purchases, the team was told. The president of this association believes the group can have an impact on raw material acquisition, which credit can possibly be passed-on to finance accounts receivable of the fabricators. Possibly, this group can even take-over some other

functions currently being undertaken by the ATI project office. Examples discussed included advertising and promotion, policing quality, establishment and application of a brand name, technical assistance and training, etc.

It would seem appropriate and highly recommended for ATI Senegal to actively promote and develop a credit system within existing institutions (not the project) and to promote, assist and encourage the strengthening of artisan associations, including the national association, as a potential exit strategy once ATI's functions are institutionalized and these organizations/linkages are self sustainable.

The previous two rubrics (#'s 7 & 8) have assumed a much greater priority in the scale of ATI's efforts in Senegal over the past year or so. High marks can only be accorded to advertising. Creative and aggressive media promotion have virtually made "Diambar" a household word, if not a household purchase. After name recognition must come brand promotion - not in a PR sense (which is largely what TV spot promotion has been to date) but in a grubby get-the-product sold way. ATI prides itself in its outreach, joint venturing and leveraging. Here is where those talents can be most effectively applied: in getting those commercial - and especially credit linkages.

9. NGO Enthusiasts - an Attitude Issue/Local Partners - "Misery seeks company" is an old cliche that may be applied to NGO/PVO circles, and in particular in Senegal. Outside of the French seed company (Tropicasem), all project contacts and efforts to expand and diffuse the technology amongst large numbers of low resource peoples seem to have focused on NGO circles. Small can be beautiful but if wide dissemination of the technologies is indeed an objective, the only proven technique is through commercial channels as the subsidies required to continue to manufacture and distribute the technologies throughout Senegal using NGO/PVO agencies are likely to exhaust many a donor budget! The project simply must move the entire effort into sustainable (and hence profitable) manufacturing and distribution systems, i.e., to the for profit small to medium scale industrial entrepreneurs. And if expansion and diffusion is to take place and if ATI is ever to move-on, out, and up to bigger and better things, the project attitude must change and commercial partners must be identified. This will undoubtedly require "appropriate technical insistence" for several more years.

10. Local Staff - The key to Institutionalization - The most discouraging finding of the evaluators was to discover how ill-prepared the local ATI staff seemed to be to plunge into phase II - mass marketing, expansion and diffusion. The team was unable to engage any of the staff in substantive discussions. The language problem aside, there really seemed to be no professionalism on display among the entire staff. The evaluators were pushed to conclude that Ed Perry was phenomenally successful as a one-person organizer, expeditor, promoter and

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"Whirling Dervish." As a staff selector or trainer we would have to rate him lower, and as for building a local institution with direction, cohesion and discipline, still lower.

11. Field/Headquarters Relationship - The team is unable to judge what the relationship might have been in the days of Ed Perry. However, it seemed apparent the current "chef du bureau" is clearly dependent on ATI/W for decision making.

    It's a well known and accepted practice to put the decision making authority and responsibility as close to where the action is as possible, as the further away decision making is, the more likely inappropriate and simply wrong decisions will be made. Unfortunately most decision making and authority seems to be resident in Washington and not in Dakar. Under this scenario, activities take place in bits and spurts with local staff waiting-on the real project director to call the shots. Likewise, it is all too easy to dis-authorize the local chief as subalterns will always wait until the Washington-person shows up to bring-up issues, suggestions, complaints, etc.

    It was learned ATI/W is apparently planning to "manage" even the bank accounts from Washington during the next project (PVO Co-financing project). This seems to be another indicator of ATI's lack of commercialization, institutionalization and willingness to "let go." Of course if an effort is initiated without a clear end-of-project (EOPS) scenario, it will always be necessary to keep the spigot dripping, if for no other reason than to monitor (and control) activities to ensure things don't get out of control.

    The evaluation team highly recommends ATI find a way to decentralize decision making and responsibility to the field and in the case of Senegal, station an expatriate in Dakar to really commercialize the technologies and to somehow devise a doable exit strategy so that by the end of 1997 local entrepreneurs are successfully manufacturing and distributing the technologies to huge numbers of low-resource households and rural market gardeners.

12. Sustainability of the Process - Viability of Commercial Manufacturing and Distribution - The team's observations, although unsubstantiated with hard numbers and precise evidence, question the overall viability of manufacturing and distributing the pumps and/or stoves - and by implication the wrapped filters, insulated baskets and the armored pestles - on a purely commercial basis without subsidies. Evidence of this is simply to ask the question: "If these items are so hot, why hasn't some entrepreneur begun manufacture and distribution on his/her own?" Of course one answer is that he/she couldn't compete with the U.S. Government, which is subsidizing the current manufacturers through ATI.

Another observation relates to the use of new, high quality, materials for manufacturing stoves and pumps. If fabricators used new materials the evaluators were told the price would escalate to the point where large numbers of low resource producers might be priced out of the market. Prices of the pumps and stoves (and other technologies) seem to have been set from the project office (now any changes must be submitted to Washington for approval) and have been purposely set as low as possible to ensure large numbers of low income producers have access to them. As the emphasis and planning from the beginning didn't include an exit strategy, efforts focused on keeping the technology as cheap as possible so large numbers of low resource people could acquire it. Sustainable commercial manufacturing and distribution never appeared to be a priority, therefore, using old metal, relying on unpaid apprentices and un-business-like small artisan producers who adopt the NGO keep-things-cheap-for-the-poor attitude to ensure prices stay low, almost precludes the possibility of spinning-off the commercial manufacturing and distribution of the technologies invented.

Project staff negotiate hard with potential manufacturers to ensure low costs and provide training and other assistance to manufacturers so a dependency is created and with margins closely controlled by the project any manufacturer will find it difficult or almost impossible to step-out on his/her own and "go commercial."

To invent a labor saving, cost cutting, income producing, environmental friendly widget, make a prototype, begin manufacture and distribution, train Third World artisans and entrepreneurs how to make it, advertise and promote until it becomes a household word, is certainly a contribution. But to spin-it off into the commercial world so expansion and diffusion can happen without significant subsidies and continual need for outside assistance and support is really the bottom line. Without this component figuring prominently in the development of any appropriate technology for large numbers of resource poor Third World producers, the U.S. taxpayers through AID - and hence ATI - will never be able to disengage and see the technology take off.

B. PUMPS

13. Useful tool - the treadle pump is an extremely useful "tool" for literally hundreds of thousands of small farmers living in areas where the water table is within 15 - 20 feet of the surface or along the margins of rivers or lakes where water must be drawn and pushed up the bank 6 - 8 meters elevation and 25 - 30 meters distance. The pump is easy to use, set-up and is a technology easily understood by small, resource poor farmers. Furthermore, the pump is the answer to achieve increases in production of primarily vegetables from heretofore subsistence

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farmers, who from time to time sell millet and other basic grains which they produce over and above their estimated needs during the rainy season.

14. Cost/Pricing - the treadle pump is "cheap" by most Western standards (CFA 35,000 - US$55.00± - cash price), yet is considered expensive for small Senegalese farmers. For this reason, credit sources are necessary to ensure large numbers of low resource farmers are able to purchase the pump. But it may not be necessary to maintain credit sources for pump purchasers if manufacturers can finance sales of the pumps and required attachments (PVC pipe/rubber hose for suction and water distribution) on credit, for say 90 days. But this implies fabricators have access to credit to finance their sales/accounts receivable. It would seem more reasonable to work to establish small scale enterprise credit to a dozen or so pump manufacturers than farmer credit to thousands of subsistence farmers spread over large distances.

    In most circumstances viewed by the evaluation team, farmers used the pumps to lift water and push it up-hill through plastic pipes. Only in one or two instances wells or water sources were located on high ground where water discharged from the pump would flow by gravity to the crops. This implies farmers need to purchase PVC or other plastic pipe to distribute water in addition to the suction pipe/hose required. This is an added cost for low resource farmers, several of which complained they hadn't anticipated these extra costs.

    Pricing of the pumps seems to be heavily influenced by the project, although the team was repeatedly told the project didn't set prices. Yet a certain amount of guidance is given, indication of which is what reportedly happened to prices vis-a-vis devaluation of the West African franc earlier in the year. Six months before devaluation pumps reportedly were selling for CFA 45,000 on credit. Before devaluation prices were reduced to CFA 35,000 under "advice" from the project. After devaluation, the price went back up to CFA 45,000. The manufacturer giving this information also asserted his gross "profit" before devaluation was about CFA 10,000 but now it was reduced to only CFA 5,000 to 6,000 per pump, as most of his costs had gone up as a result of the devaluation. In any event, if margins were in fact CFA 10,000 on a 45,000 item, it would result in a gross margin of only approximately 28%. If the gross margin is only CFA 6,000 on a 45,000 item, it is only about 15%. Is this enough to facilitate private sector entrance into pump manufacture?

    If you want a sustainable product enjoying growing sales and wider and wider use, manufacturing and distribution will have to be in the private sector and fulfill profit aspirations. Donor pockets will never be deep enough to continue to subsidize projects and/or ideas like the treadle pump, unless they can be put on a viable, sustainable basis. And this might mean raising the price to increase margins to attract the private sector.

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The other sustainability dilemma occurs with regard to research and development, advertising costs, technical assistance and training, transport, and all the indirect subsidies paid for through the project. New manufacturers/entrepreneurs bucking the flow and trying to go into business on their own without the subsidies paid for by the project face an impossible task. Not only will there be price competition vis-a-vis "encouragement" on the part of the project resulting in possibly artificial low margins, but the entrepreneurs will have to face all the costs of training, promotion, etc. on their own. No wonder divesting and truly privatizing manufacture and distribution of this bit of appropriate technology has been unsuccessful so far.

15. Repair - The pump is easy to repair and is manufactured using discarded or used materials for some parts and imported steel for others. Yet the pump requires a degree of specialization with regards to tools and equipment needed to make it. Electric welding, drill press, geared or hydraulic press, certain jigs and molds, heretofore made in the U.S. but now being made in Senegal (we understand - did not see this aspect of project), are required on the part of the artisan. Repair either requires a traveling mechanic(s) with stocks of spare parts, a portable welding rig and a 4 x 4 vehicle, or the farmer must pull the pump and physically transport it to the manufacturer's shop. If one specific part gives way, the farmer could simply travel to the manufacturer's shop and buy the part; easy if manufacturers are close to the users, but increasingly difficult if the pump user must travel to Dakar or some distant regional growth point/market town. Alternatively, repair facilities closer to farmers' plots might be set-up and equipped with spares and the technology/training needed to service neighbor pumps.

16. Manufacturers - shops making the pumps generally appear to be manufacturers of metal window and doors, other simple agricultural machinery and tools, are most often sole proprietorships, are considered or consider themselves "artisans," and are usually affiliated to a government sponsored artisan guild or association. On these non ATI items, manufacturers reported their margins are higher, making it more attractive to produce these items, although there are no subsidies or other NGO services attached to these items. Manufacturers are "primitive" with dirt floors and multiple young apprentices who work unpaid, for the privilege of learning, from as young as 10 - 12 years of age. Given the sophistication of the manufacturers the team visited, few formal records, other than names/addresses of pump or wrapped filter purchasers seemed to be kept. Artisans generally produce pumps based on orders accompanied by 50% deposit. Once the pump is manufactured, a project vehicle is frequently used to transport the pump to the farmers' fields. Before the pump is turned-over, the balance 50% must be paid and manufacturers usually "install" the pumps and demonstrate their use, periodic maintenance, etc. in the villages.

17. Pump Marketing - pump manufacturers don't advertise on their own. Small metal "billboards" are strategically placed (with USAID listed as a sponsor) by the project so motorists and/or pedestrians know a manufacturer is close by. Fabricators have no transport nor do they seem to have the economic wherewithal to get it. By and large they are passive manufacturers and merchandisers of the pump. One reported a Peace Corps Volunteer sold 30 pumps and his/her replacement had already sold six. But when asked why he couldn't hire a person to either work with the volunteer or be his pump salesperson, the manufacturer said it was too expensive; it would price the pump out of reach of the client group, i.e., small resource poor farmers. Transportation of sales personnel would cost more that the income made from sales!

    This of course brings into question the real viability and long-term sustainability of the treadle pump. If a manufacturer can't produce, market, service a product in an unsubsidized commercial manner, even though the article is viable from the producer's perspective, something is wrong. If by raising the price to make the manufacturer viable, including a reasonable (from the private sector's perspective) profit, adequate depreciation charges, etc. the article becomes non-viable from the users' perspective, we have a non starter. Is this the situation of the treadle pump in Senegal?

18. Artisan Association - One of the pump manufacturers reported he was president of a national association, which currently was active in group purchasing of steel and leather (for the pump cups). Quarterly, members meet and contribute CFA 35,000, which is used to bulk purchase, resulting in additional savings. He reported their dream was to supply tools, raw materials of all sorts, training, marketing assistance, etc. Beginning as a simple trade association, the president thought in the future they might form a business cooperative for these functions.

    When discussed with the national project director, he reported he was unaware of any plans to work to strengthen this group. Although there was no time to explore the potential of such an association to eventually take-over a service role, it could be the beginning of an exit strategy. But as ATI doesn't seem to have a plan to phase itself out and allow the private sector to do its thing, and, since ATI seems to focus more on the technological aspects of development as opposed to the people aspects, no wonder plans don't seem to exist to work in this direction.

19. National Policy - Is there an agricultural policy or national strategy to promote production and export of non-traditional agricultural products? The team was told yes by several interviewees. If this is the case, which makes sense given the GOS drive to increase exports and reduce imports, then farmers who are introduced to vegetable production using pump irrigation should be provided a path toward expansion and promotion up a ladder to become producers of export

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oriented items. This can either happen through the development of bigger farmers (land reform) or small guys becoming bigger. This would imply graduating a farmer into a motorized pump and commercial farming so he/she could take advantage of these opportunities? But the team was repeatedly told by all respondents motor pumps are beyond the capability of Senegalese small farmers, which is believable given the general state of deterioration observed at every turn.

But is there anything being done to promote, use and repair motor pumps in Senegal? Does anybody do this? Who is training small engine mechanics in rural areas? Is this a better technology? We know motor pump manufacturers and distributors exist and are viable businesses and pricing strategies have been worked out. If adequate production technology and cultural practices are introduced (also appropriate technology) small vegetable farmers, as opposed to market gardeners, might indeed flourish. Isn't that more like the 20th (almost 21st) Century, rather than seemingly retreating backward into the age of foot and hand power? With a treadle pump a person can farm (as opposed to garden) about 3,000 square meters (1/3 hectare), while with a 3" motor pump the same person could farm one to three hectares.

20. Value Added Chain - Extension - The treadle pumps are theoretically one intervention in the market gardener sub-sector; the most critical, reportedly. Yet after providing the means to get water, heretofore subsistence farmers need many other interventions in order to exploit their new-found opportunity. Varieties, soil preparation techniques, cultural practices, etc., all need addressing if the pump is going to even come close to realizing its potential to improve incomes. Then, marketing assistance will be required and as more pumps make their way to farmers, vegetable production will increase and original pump users may find the market flooded with similar products. But without this extension service and continual education and training, first-time pump users/market gardeners are very likely to only realize a fraction of calculated benefits.

In visits to market gardeners, admittedly in the off-season, little evidence of extension assistance was observed. When queried, "extension" personnel seemed to be more pump extensionists/facilitators capable of selling, promoting, brokering and training farmers in the intricacies of usage rather than providing agronomic technical assistance to pump users. This was reflected in bug-eaten cabbages, deformed egg plant and blight ravaged tomatoes observed in several gardens. About ten market gardeners were visited and in only two instances did the team observe any marketable surplus.

Some efforts have been made to upgrade vegetable farming by introducing a white translucent polyester (?) covering for seed beds, and by producing "onion sets" for transplanting. Using onion sets instead of field planting of seeds, speeds

up harvest by several weeks and gets onions to market when prices are high. These seem like useful methods (hardly appropriate technology or a breakthrough) which should be encouraged and brought to wide use. But other modern production techniques will also be required and delivery to large numbers of market gardeners will require an effort to organize and group producers. This implies a cooperative or some other form of village groupement, evidence of which didn't seem to exist. In fact, nowhere did the team see or hear how other interventions in/on the value added chain were to be orchestrated, funded, or implemented!

C. STOVES

21. Energy Policy - two significant meetings dealing with energy policy took place in Dakar in 1993. The first was of the Inter-ministerial Council, held in August and the second, called the Senegalese Forestry Action Plan, took place in October. Perhaps as a result of having combined the recommendations coming out of both meetings, the resultant official policy statements have something for everyone - including both confusion and contradictions. Among its fifteen policy points, the Senegalese Government conceals quite effectively what policy priorities or goals might really be. Most of the fifteen are general to the point of sounding rhetorical. But the last point under "Domestic Energy Strategies" is encouragingly protective of the Diambar stove. It states: "To rationalize the production of wood and wood derivatives for energy, and to reduce their demand, it is our strategy to promote the development and expansion of massive utilization of improved wood-burning stoves."

22. Useful Tool - the Diambar stove concept is indeed a useful tool; it saves charcoal (hence money), focusses the heat upward toward the cooking pot thereby resulting in faster cooking and less time the cook needs to spend over a boiling pot. The stove is also pretty...sleek and black with a red clay liner, even though the body is made with scrap iron scavenged from old appliances. Although it is more than three times the price of a traditional stove, even World Bank and USAID/Senegal staffers own and use it, when available. And the stove saves the forests...it only uses 1/2 the charcoal a traditional Senegalese charcoal stove.

23. Cost/Pricing - the large stove cost approximately CFA 4,500 (US$ 8.33 approximately), which is three to four times the cost of a traditional stove. For low resource families in urban areas of Dakar, however, this still represents a prohibitively high expenditure at one time and therefore in order for large quantities of stoves to be sold some credit facilities are necessary, either for the buyer or for the manufacturer to carry his/her accounts receivable. Some marketing groupements or sales persons are helping groups of women form informal savings clubs, known as "Tontins," to accumulate sufficient funds to purchase the stoves. Manufacturers have had difficulty obtaining investment and

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working capital credit and when added to the problems families have in accumulating sufficient cash even to buy a stove, price may be a barrier to wide dissemination amongst large numbers of the lowest income strata.

As in the case with pumps, stove manufacturers reported prices were not set by the project, although they did report they were encouraged and educated to believe their best interests would be served if prices were kept as low as possible. Perhaps when selecting manufacturers, project personnel screened-out true entrepreneurs as permitted or acceptable margins on the first orders were so low that serious business persons were discouraged and didn't bother to either follow-up or get involved...but this is pure conjecture. It did seem apparent, however, that stove manufacturers visited were amongst the low resource manufacturer class and both did mention they thought it important to keep their prices as low as possible to keep the stoves within reach of the poorest segments of the Dakar population.

24. Repair - as the stove is made from scrap sheet metal bought or scavenged by apprentices, and the clay liner is rather fragile, stoves either wear out (rust through) or the clay liner must be replaced. But in any event, repair is simple if the owner can find a clay liner or a tinkerer who can weld/solder the rusted metal. The useful life of the stove is about two years.

25. Manufacturing - stoves are manufactured in small, extremely low resource artisan shops located in back, out of the way, neighborhoods in urban barrios of Dakar. Appearances and impressions tell the story - the stove is manufactured by artisans with little or no resources, by a few unpaid apprentices hammering rusted refrigerator metal (apparently purchased by the artisan and hand carried/transported to the shop by the apprentices) on old discarded train track-rail. Artisans seem to be almost totally dependent on orders in which 50% deposit is collected when the order is placed and with which the paint and other store-bought materials are purchased. Payment of the balance is upon delivery to the vendor(s).

    Artisans complained of lack of working capital and none of those visited seemed to have either the entrepreneurial or financial capacity to step-out and manufacture and sell stoves on their own. In addition to the raw material costs for the tinkering, the ceramic liners, made reportedly by a groupement of women and a somewhat more sophisticated pottery artisan, seemed to be the limiting factor. But the team had the impression stove manufacturers were pretty much dependent on project personnel to coordinate with liner fabricators and marketing agents.

    The most key component to the stoves is the ceramic liner as without that the Diambar stove looks very much like traditional stoves. Liners serve as the base

on which the charcoal fire is built/placed and focuses the heat upward to the bottom of the pot. They are manufactured using a "recipe" developed over time by project personnel, apparently through trial and error. Liner manufacture is primarily undertaken by an association or partnership of five individuals working out of a foreign aid-provided artisan complex frequented by tourists in downtown Dakar. Unused (presumably broken) ceramic equipment is piled-up throughout the shop and while mixing machines seemed to be available, clay, ground-up broken pottery, ash and possibly other ingredients are mixed with water in an old discarded bath tub. Once molded, wet liners are allowed to dry before baking in a gas-fired kiln, which was also "gifted" to the shop by the British Counsel through efforts undertaken apparently be ATI. The project has a contract with this operation to produce clay liners "at the project price."

Pricing of the liners before devaluation was reportedly about CFA 1,200 at one time. But this was brought down to CFA 700 just before devaluation and now the price stands at approximately CFA 900 each. One of the owners the team met reported he had one loan from the USAID financed small enterprise project and now has recently obtained a CFA 4.0 million loan from a commercial bank so as to become a stove distributor outside of Dakar. Reportedly, the liner firm will make liners for artisans placing orders and, place his own orders with artisans for complete stoves. These stoves will be marketed outside Dakar, where an attractive market is thought to exist.

26. Marketing - is carried out by women's groupements which work in an AMWAY-like fashion. They pass orders and deposits to manufacturers who only seem to sell based on orders. In addition to groupements, individual sales-persons also sell. Both sales networks work to organize buyers into "tontins," which are informal savings groups. In this manner poor households work to save for stoves. While these methods are working, they seem also to be a bottleneck as to date sales have been slow. Manufacturers don't maintain inventories nor are there stove show-rooms or stores where people can walk-in empty handed and walk out with a stove or two. But the team is not certain whether marketing is the critical bottleneck or manufacturing. The most likely scenario is that both manufacturing and marketing constraints have limited the numbers of stoves sold.

The project's stove marketing cadre organizes demonstrations and barrio demonstration shows to promote the stoves. The team attended one, sponsored by a neighborhood sports cum social club, to which 200 -300 neighbors were also present. The show was well organized, lively, colorful and clearly an entertainment success. But sales persons didn't work the crowd pushing stoves nor were auctions, raffles or other merchandising techniques used to move stoves. Only five stoves were "on display" and demonstration organizers

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prepared a meal on one or two others. The evaluators were told the five stoves had been sold before the exhibition began.

While the neighborhood where the demonstration took place contained thousands (maybe hundreds of thousands) of families, there were no apparent "stove stores" where interested people could buy one. The process to buy a stove is complicated and project personnel haven't seemed to have found a merchandising formula which will move thousands of stoves.

All in all, marketing and distribution seem to be the real bottleneck, but manufacturing in the manner and fashion being undertaken by the project also contributes to slow deliveries. And to complicate matters, the person responsible for marketing at the ATI office is young and inexperienced, certainly not the kind of mover and shaker required to move stoves!

D. OTHER TECHNOLOGIES

27. Food Processing - ATI has quaintly termed "food processing technology" the reinforcing of the tip of the wooden pestle used by the women of Senegal to crush or de-husk grain. Whether it will be possible to entice substantial numbers of pestle users into places where their pestle-tips can become steel-tipped or ribbed, or whether poor farmers will be willing to pay for such an upgrade, has not been tested. Theoretically, this is a textbook and classic case of modernizing ancient technology to make it cheaper, faster and more efficient. But in the particular case of the armored Senegalese Pestle, the price and trouble it takes to get it armored may be hard for ATI to sell economically (or financially).

28. Wrapped filter - Most wells in Senegal are hand dug and commonly only have one to three feet of water in the bottom. For drinking purposes, drawing buckets never exhausts the supply as the recharge rate is sufficient. But when one or more treadle pumps are used for irrigation, many wells go dry after brief periods of pumping. In order to solve this problem, a six inch diameter by two meter PVC pipe is drilled with hundreds of 1/2" holes and wrapped with a piece of polyester cloth. This mummy-like cylinder is inserted (buried) in the bottom of wells. The suction pipe from the pump is then inserted into this tube. In effect, the original well has been deepened by two meters and its recharge rate significantly augmented.

    ATI Senegal found it necessary to promote this technology in conjunction with the treadle pumps so as to avoid the problem of drying wells. While very useful, its installation can be troublesome and/or expensive for low resource farmers. The installation requires several pumps and knowledge of well-jetting. While pump manufacturers can make the wrapped filter, they don't seem to have either the equipment nor the knowledge as to how this technique works.

Its a good technology, but it is doubtful it can ever be spun-off to the private sector in Senegal for acquisition by large numbers of small farmers. In instances where the farmer can install the wrapped filter by hand excavation, it is more likely to enjoy wider, unsubsidized use.

29. Seed-bed Covering, Onion Sets - Two other minor technologies have been introduced in the market gardeners value added chain, i.e., a polyester seed bed covering to thwart heavy insect attack of young plants and the use of onion sets instead of planting onions from seed.

    Keeping to the NGO network, ATI turned to RADICOM and expects to soon receive their first shipment of 40 square meters of the material at the cost of CFA 8,500. Although no definite plans were made known to the team, it is conjectured ATI/Senegal will promote this technology this market garden season, which commences in October/November, and sell the material.

    By promoting the use of onion sets to achieve earlier harvests farmers gain the advantage of higher prices for their big onions for the local market. The technology works, could be promoted easily, but would result in no comparative advantage if large numbers of farmers adopted the practice. Yet it is worthy of promoting as not only could farmers harvest early, but planting could also be staggered to easily extend the season.

    Both the seed bed covers and the onion sets are examples of well known technologies used in developed (and developing) countries. Similarly, there are other agricultural technologies subsistence farmers can adopt too, if only brought to the country and introduced. But this might convert the ATI program to an agricultural research and extension project for which ATI seems ill-equipped and which would be very expensive too. Clearly if ATI is to move into other agricultural interventions on the market gardener sub-sector value added chain, they will need to add more experienced staff in commercial production, agronomy, extension, marketing and farmer organizations and/or farmer owned business. But by going in this direction ATI duplicates programs and specialized services of other organizations, both NGO's/PVO's and the AID itself, which in turn weakens its argument that it is unique and special.

30. "Son" Separator or Winnowing Machine - ATI/Senegal has apparently made several prototypes of hand operated wind generating machines to separate the chaff from the grain. Several have apparently been sold and apparently more are yet to come. These machines greatly speed-up threshing and preparing grains for market, resulting in cleaner grain which ostensibly fetches a better price for the farmer.

The winnowing machine and other improved human or animal powered agricultural machinery, equipment and tools are needed in rural areas as subsistence farmers make the transition to market oriented producers. But all these technologies will require design, prototype manufacture, testing and promotion, and project proponents will face the same sort of constraints experienced in developing the treadle pumps and Diambar stoves, i.e., lack of credit, scale, human and financial resources, and institutions able to effectively serve the farmers in their farm supply and marketing needs.

31. Bio-Pesticides - The ATI Senegal project is reportedly manufacturing or promoting the private manufacturing of bio-pesticides from Neem tree products. It was understood these products are being distributed by project personnel attending to pump promotion and development, although the team didn't see any evidence of their use or manufacture.

E. NEW PROJECT

32. Transition from Technology Transfer Project to the PVO Co -financing Project - ATI secured approximately $260,000 from USAID/Senegal for a nine month "capacity building phase" before the new PVO Co-financing project is expected to start-up. In this transitional phase between project assisted manufacture and commercialization and full production with wide dissemination of the pumps and Diambar stoves, ATI is focusing on "nationalizing" the knowledge gained over the past three years. A Senegalese project manager has been named from among existing staff (Ibrahima Djaby); efforts are focusing on business and management training for artisans and marketing agents, and other NGO's are being assisted to gain capacity. In this transition phase the project is continuing commercialization of the pump and stove plus new technologies in the research and development stage, i.e., cloth for the seed beds, bio-pesticides, wrapped filters, armored pestles, and onion sets. The project is exploring new geographic areas for the proven items (stoves and pumps) and is developing new methods for promoting and marketing the technologies.

The evaluators saw evidence this work is getting done. Pumps seem to be moving into new areas around Lac de Guere and other settlements along the Senegal River. Likewise, the biggest (and possibly the only) manufacturer of ceramic stove liners obtained a CFA 4.0 million loan to market the Diambar stove outside Dakar. ACA, ATI's local partner, has reportedly been giving training programs to up-grade business skills. What seems to be lacking, however, are concentrated efforts to solve the production and marketing bottlenecks of both the pump and stoves in existing markets.

The transition from expatriate to local project director seems to be a bit rocky. as impressions described in the first section of this report seem to prevail. Its one

thing to train an individual but entirely different (and much more difficult) to inculcate the private sector approach and entrepreneurial spirit, especially if the client has a lot of de-training and re-learning to go through first!

33. The New Project - The evaluation team met with Steven Browne, New TransCentury Foundation's resident representative advising the PVO Co-financing project as well as with the financial director and the assistant project officer (the PO was on vacation) at the PVO project implementation unit.

From these discussions it was learned ATI's proposal has been approved by the national committee and will be funded, but not at the original level. The document is considered a good document and seemingly the project for which support is requested is also important and unique. No other PVO/NGO is developing and disseminating technology in Senegal, apparently. Other impressions communicated by those interviewed is that ATI plans to implement the project from Washington, indicating a lack of faith in their local office staff (the evaluation team is not surprised as this is consistent with ATI's DC-based structure and staffing pattern). Transcentury people questioned whether the local office, with occasional visits from headquarters, is capable of achieving all that which is promised in the proposal, which contemplates multiple activities country-wide. It was also thought design of the new project was "imposed" from Washington with little if any local involvement, and that now it would be necessary to "re-dimension" the outputs and of course the budget.

The proposal, originally submitted in July or August 1992, is only now coming-up for review - two years after submission! This event - or better yet, non-event - telegraphs the great support and interest the Mission places on supporting NGO's. Excuses may fly, but at the end of the day there really is no excuse for this apparent long delay in processing the proposal.

Transcentury staff also expressed concerns relative to the sustainability of the project in the absence of ATI. In short, Transcentury staff were questioning the viability of producing and marketing stoves and pumps entirely in the private, for-profit sector for the poorest segments of society; the evaluation team concurs with this questioning...

Reviewing a French copy of the new proposal, it was learned phase II of the Senegal program will focus on making the micro- and small-enterprises producing the technology self-sufficient and able to carry-on without additional assistance by PACD. Specifically the new project will:

* transfer ATI's technology transfer methodologies to at least three local NGOs;

* train more than 300 entrepreneurs in utilization of improved business management techniques;
* train 100 artisans in manufacture of treadle pumps, Diambar stoves, armored pestles, and winnowing machines;
* wide dissemination and use of the technology - 20,000 Diambar stoves, 1,000 treadle pumps, 300 wrapped filters, 500 market gardeners participants, 3,000 armored pestles and 100 "son" or chaff separators;
* improve ACA's aptitude or ability to implement business management training for illiterate persons;
* elaboration by ACA of special systems of financial management and management of two related sub-sectors; and,
* three new technologies which are prone or able to be extended will be identified.

The evaluation team questions the ability of ATI/Senegal to achieve a breakthrough in manufacture and dissemination of the two most important technologies, i.e., the stove and treadle pump, given the success achieved to date and in particular given the attitudes, control and NGO approach. Manufacturing and distribution, with all associated advertising, promotion, after sales service, etc. needs to have substantial profit margins before it will be sustainable. Product appropriateness and acceptance seems to have been achieved in the target population, however, a whole different focus, mentality and approach will be required to take the products commercial. We did not see this capability in ATI/Senegal and furthermore question whether or not this type of technology, focusing on the poorer segments of society, and potential margins from manufacture and sales will be sufficiently attractive to for-profit entrepreneurs capable of exploiting it.

ANNEX III

- **ZIMBABWE TRIP REPORT/OBSERVATIONS**

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ZIMBABWE TRIP REPORT/OBSERVATIONS

August 12, 1994

A. GENERAL OBSERVATIONS/COMMENTS/CONCLUSIONS

1. Legal Status/Organization of ATI in Zimbabwe - ATI, as an organization, does not have legal status in Zimbabwe. As such it relies on another foreign organization which does have a basic agreement with the Government of Zimbabwe. Apparently to negotiate a basic agreement is very time consuming, difficult and costly. As such, ATI chose not to have a basic agreement and formally establish itself in Zimbabwe. Instead, it chose World University Service of Canada (WUSC), a Canadian volunteer exchange NGO, which also has its regional Southern Africa office in Harare, as its implementing agency. While this gave ATI an entre into Zimbabwe without waiting-out the basic agreement process, it did not permit them to post an expatriate in Zimbabwe to implement the Zimbabwe Oil Press Project (ZOPP).

   Although WUSC's administrative and financial management of the Zimbabwe project might have been acceptable, they were not able to manage the technical implementation of the project satisfactorily. The first project manager didn't work out and was replaced after two years approximately with the current person, the spouse of the first secretary of the Canadian International Development Agency (CIDA), who was resident in Harare.

   Would the project have gotten off to a better start had ATI been able to station an experienced expatriate as their resident project manager in Harare rather than manage by remote control?

   Given that the WUSC agreement adds two layers (at least, possibly three) of bureaucracy onto the project, it would seem advisable to open negotiations for a basic agreement with the GOZ, if ATI has plans to continue support to hand operated oil press diffusion and dissemination in Zimbabwe. The team was told by the Chargé d'affaires of the U.S. Embassy that the ambassador is supportive of ATI's in-country program. This could facilitate rapid negotiation and signature of a basic agreement with the GOZ.

2. Management of the Zimbabwe Operation - The office is currently housed in quarters adjacent to the WUSC regional and local offices in downtown Harare but is scheduled to move. It is managed by Mrs. Michelle Perron, the wife of the first secretary, CIDA. Assisting her are three extension/sales personnel plus one part-time technical consultant (a graduate of the University of Arizona, reportedly), two guards, a driver and a summer intern from a Canadian university. Mrs. Perron is currently being maintained on a month to month basis while a new permanent

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project director is hired. Interviews of candidates have been held. Final selection (by ATI/W) will be made shortly, we were told. ATI plans to hire a Zimbabwe national for the position.

ATI has established a contract with Mr. Andrew MacPherson from the MacPherson Consulting Group, an Australian who has set-up his consulting business in Harare, to advise on the commercial production and marketing of the ram press on a regional basis. This management contract may also include other functions relating project management of the Zimbabwe effort. It is hoped that part of Mr. MacPherson's role will be to bring a realistic approach to cost/price establishment and marketing at the ZOPP as well as to the array of projects in the regional oils efforts.

Another issue worth mentioning and which was also observed in Bolivia and Senegal, is that ATI hasn't apparently developed a complete project document laying-out the entire project plan from beginning to end, including an exit strategy contemplating commercialization and disengagement of ATI. Following the usual AID recommended project planning methodology, a Logical Framework Matrix is prepared which includes End of Project Status (EOPS) conditions and other achievement indicators to ensure the project hangs together, has a discrete beginning and end and is implementable given the level of resources required. Without such a document (or something similar), it is easier to only think of a development effort in "bytes" and not see the whole picture. The ZOPP seems to fit this pattern as the evaluation team did not see a complete project document (neither has the current project manager in Harare) and observations seem to corroborate the sense that the project has grown haphazardly.

While ATI's approach to fund raising and project implementation may have contributed toward the present state of affairs, a valid question remains: should a project be initiated by a non-governmental organization (NGO) without end of project planning or an EOPS clearly defined?

Lastly, the team reviewed a periodic financial report sent from Harare to ATI/W. The document was not much more than a summary listing of expenditures by line item for the period in question. Although each ATI project is audited yearly by local auditors, it strikes the team as somewhat naive to assume any mis-appropriation, mis-charge or simple error will be identified and corrected by the end of the year auditors. A complete financial report, including expense and receipt vouchers, non-cash entry vouchers, a print-out of all the transactions correlated to the vouchers and liquidated in both dollars and local currency, bank reconciliations for each bank account managed by the project, petty cash reports, etc. would give more assurances of proper financial management and accountability of donor funds.

3. Local Staff - The Key to Institutionalization - The key to real capacity building in developing countries is training a good local staff. Traditionally, international technical "insistence" is recommended in the first project cycle, at least, to provide

on-the-job training and to get the project off to a right start. Later, once a good local cadre of staff is built, the expatriate can be replaced by the understudy or counterpart and the project monitored from headquarters. Furthermore, if there is a local or indigenous "counterpart" organization through which a project can be implemented, local capacity building can proceed and hope for institutionalization of the product or concept may become reality. ATI Zimbabwe has not followed this proven pattern of development management. There is no counterpart organization nor even an understudy for the current project director. Only after more than two years is ATI hiring a local project manager to take over from the current person, who will presumably leave the project once the new person has been recruited and "trained".

While this approach to project implementation may save money, it is likely (and has) to result in remote control management, decision making in headquarters, piecemeal implementation and problems.

4. Field/Headquarters Relationship - In Zimbabwe, and as observed in Senegal and seen - on paper, at least - in other ATI projects (Central American Coffee, Guatemala Ceramics, Nepal, Sri Lanka, Philippines, Uganda, etc.), the organization prefers to manage its overseas projects from Washington using host country nationals (or possibly third country nationals) to lead the project at site. While this may save money, as noted above, it is also conducive to management by remote control as full authority and responsibility is seldom given to indigenous people on the headquarters payroll. And in order to manage from Washington, ATI must send multiple faxes and run heavy phone expenses not to mention frequent project monitoring and supervisory visits. In fact the ZOPP manager reported an extreme load of faxes and requests for information and multiple phone calls to check various issues and impart instructions. This is considered micro-management in some circles!

   Prices and service levels are set from Washington or by Washington personnel when in country on project monitoring and supervisory visits. Hiring of local staff is done by Washington. Costs are determined by HQ personnel, budgets are made by these same professionals and targets are established by headquarters, albeit after consultations with the project manager and her local staff.

   While this management style has its proponents, and it certainly does ensure control, including quality control and damage control, it can also lead to needs for excessive high priced headquarters staff and high international travel budgets and rarely builds local capacity.

5. Relationships & Attitudes - ZOPP has been criticized by some local and international NGO's for selling presses to the poor with business interests. It was reported that some local NGO's continue to pressure for a give-away program. But the ZOPP has apparently viewed local and international NGO's as a major client group, even though less than 15% of the total presses sold have been sold through this conduit.

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These include local and foreign NGO's, informal women's groups and other community or cooperative groups. The project no longer targets NGOs in its promotion and marketing efforts, however, as reportedly this effort hasn't paid-off.

In discussions on pricing, viability and commercialization, the regional WUSC representative argued on behalf of maintaining prices affordable for those people who otherwise couldn't afford to buy a press. This attitude seems to reflect the direction taken originally by the project and may account for the high degree of subsidization noted.

WUSC is not a likely organization to replace ATI in Zimbabwe, as they are also a foreign NGO and focus primarily on volunteer services and exchange programs.

Apart from the good relationships the project (and hence ATI) seems to enjoy with all those interviewed, there has been a problem with the UNDP's Agricultural Operations Technology for Small Holders in East and Southern Africa (AGROTEC) project. At the request of the Extension Department of the Ministry of Agriculture (AGRITEX), the UNDP project provided funding from July 1991 for three years to study, test and understand the ram press system. A report entitled "The Ram Press System, A Research Report," by Raymond Nazare, Bjorn Henriksson and Raphael Ngere, Institute of Agricultural Engineering, Harare was completed in May 1994. The team studied small scale oil extraction technologies in response to the GOZ's policy of self reliance, efforts to increase oil seed production and to decentralize processing activities. The original request for funding had been made in December 1989, the report states.

Following the official publication of the research report, AGROTEC planned to prepare manuals and related instruction material after calling together practioners, manufacturers, NGO's and other interested parties in a regional workshop on small scale oil processing to be held from September 5 - 9 in Arusha, Tanzania.

Unfortunately, while informal coordination apparently was taking place at the local level between a ZOPP project technician and the engineering institute, little if any formal relationships were established between ATI, the ZOPP project and the UNDP group. Appearances are that both ATI and the UNDP agricultural operations technology project maintained separate and distant operations. Reaction was swift and decisive when ATI/W learned of the workshop - a five page rather unfriendly letter from the Program Development Director for Africa. And the UNDP training officer responded with his own five page letter.

It would seem highly productive, useful and recommended if both organizations and related partners and associates could work together, especially since the UNDP's typical approach is through governments and is not private enterprise friendly. But this incident reflects ATI's tendency to go it alone as relates to other projects, activities or organizations which are seen as competitors. By working with the UNDP sponsored study and AGRITEX group, ATI might be in a position to influence

government and UNDP oil press programs and have influence on hand oil press development in Eastern and Southern Africa for years to come. By becoming involved in this research work, by assisting, sponsoring and working with those involved, influence could be gained, viewpoints adopted and undoubtedly a more positive outcome might be achieved, especially as regards issues such as subsidization, viability, and economics of the micro-enterprise, private sector manufacturing and distribution, etc. Now, however, it seems apparent that ATI is likely to be the "odd man out" at the conference, that is if they attend at all.

While ATI readily accepts organizations likely to finance their activities, they seem to aggressively compete with organizations or field projects which are implementing development activities. Instead of working together to compliment each other, ATI seems to avoid other organizations. They do not seek-out organizational expertise in micro-enterprise, credit, farmer organizations/farmer owned business nor do they have staff depth in these crucial areas, especially if they are serious about institutionalizing the systems and enterprises they develop and ensuring the commercial viability of the technology.

6. National Policy - Zimbabwe is following a structural adjustment program to put its economic house in order. The government is restructuring and retrenching employees through "early-out" and other programs. Job creation is vital and the GOZ is actively courting and promoting the private sector after having embarked on an early Socialistic program. Subsidized loans and "grants" are being offered so Black entrepreneurs can get into business and other programs favorable to Black business creation are a priority. In fact, one of the oil press manufacturing firms used by ZOPP to make presses on contract is the product of such a program and is owned by three re-trenched or ex-GOZ employees.

In addition, the GOZ is promoting increased oil seed cultivation and production of vegetable oil and other food products for exports. To this extent, if hand operated oil presses can provide oil for local consumption by large numbers of Zimbabweans, it will ostensibly provide additional oil for export.

The Agricultural and Rural Development Authority (ARDA), is working to increase dairy production in the rural areas, and in particular in the areas inhabited by large numbers of Black people. ARDA is keenly interested in the oil seed cake produced as a by-product from sunflower seed crushing as high protein and energy animal feed and has established some relationship with the project. But so far, no formal agreement exists, the team was told.

The Institute of Agricultural Engineering of the Ministry of Agriculture Extension Service is very interested in the ram press and program and has/is promoting its dissemination. AGRITEX has recently concluded a three year research project financed by the UNDP to study the ram press system, prepare extension manuals. and gear-up its efforts to promote press use and increased sunflower production.

It is within this context that the ZOPP fits GOZ priorities and programs.

7. Costs & Benefits - The ATI activities in Zimbabwe have reportedly cost donors (CIDA, Africa Now, FICAH and ATI) approximately US$465,000 through June 30th. Reportedly, 635 machines have been sold through 8/5/94 but for this exercise credit will be given for the full number as of 6/30. Beneficiaries and other NGO's have purchased some of these machines but others have been used in demonstrations and possibly given away initially. Eighteen presses have reportedly been exported to neighboring countries. Currently ATI is contracting for the manufacture and selling two sizes of machine, the CAMARTEC - a smaller machine with a 30 mm piston - and the CAPU (BP-40) with a 40 mm piston design. The cost of the big machine, including the wooden base and filter stand, is Z$1,925 (US$253 approx @ US$1.00 = Z$7.60) while the price paid for the small machine, filter stand and wooden base is Z$1,550 (US$204 approx). These funds have and are being used by ZOPP to finance its operations, pay for presses, provide training, etc., and should be added to the foreign funds to obtain a total cost of the project today. Assuming a 40-60 split between small and large machines, which may or not be valid, the local contribution comes to US$ 148,300. This plus donor contributions of US$ 465,000 results in a cost of US$ 966 per press manufactured and sold. However to this, one must add the contribution received from ATI/Washington in the form of monitoring and supervisory visits, proposal preparation, short-term consultant assignments, evaluations, engineering assistance, etc. While no estimates have been provided by ATI, it might conceivably increase the true cost of the press by as much as $ 100, which would indicate an estimate of approximately $ 54,700 spent by ATI/W and attributable to Zimbabwe, which is not unreasonable given the life cycle of the project. If these figures are in the ball park, each press has a total cost, delivered of approximately US$1,066, or **FOUR AND ONE HALF TIMES THE SALES PRICE IN ZIMBABWE!**

Using figures provided to the evaluators by the ATI project office another estimate for some of the subsidized costs results in subsidies of between Z$ 900 - 1,120 for the CAMARTEC press and Z$ 1,436 - 1,938 for the CAPU press. This includes Z$ 100/press in other indirect costs, which is clearly an arbitrary figure but probably a realistic estimate. These subsidies, between 77% and 96% for the smaller CAMARTEC press and between 99% and 134% for the larger CAPU press, are a barrier to entrance into the ram press manufacturing and distribution business for any manufacturer who may wish to try his/her hand outside project authority, supervision and control. As long as the ZOPP project continues to be the middle-man, actually ordering and distributing presses, providing subsidies such as described herein, privatization and spin-off of press manufacturing and distribution is unlikely.

Costs Related to Ram Press Dissemination/[1]

	ITEM	CAMARTEC PRESS	CAPU PRESS
1.	Mfg Price (Z$)	Z$1,162	Z$ 1,445
	Sale Price Cash	1,405	1,750
	Sale Price Credit	1,655	1,750

2. Costs related to delivery of one new press and training of new clients

	Rusape, 180 Km 1 1/2 days	Bulawayo, 450 Km 2 days
Fuel	Z$ 75	Z$ 200
Per Diem	85	112
Accommodation	200	200
Salary (net)	280	372
Sub total	Z$ 640/press	Z$ 884/press

3. Costs Related to Follow-up Visits - 2 Presses/2 Sites

	Rusape	Bulawayo
Fuel	Z$ 85	Z$ 220
Per Diem	56	112
Accommodation	-	200
Salary	186	372
Sub total/Press	Z$ 165/press	Z$ 452/press

4. If press breaks down and requires repair - Same as No.3

	Z$ 165/press	Z$ 452/press

5. TOTAL RELATED SUBSIDIZED COSTS FOR INITIAL DELIVERY AND TRAINING SERVICES PLUS COSTS RELATED A FOLLOW-UP VISIT PLUS ONE REPAIR VISIT TO RUSAPE AND TO BULAWAYO

2 + 3 WITHOUT LOAN	Z$ 805/press	Z$1,336/press
2 + 3 WITH LOAN	855/press	1,386/press
2 + 3 + 4 WO LOAN	970/press	1,788/press
2 + 3 + 4 W/LOAN	1,020/press	1,838/press

6. Other items not considered in the above figures relate to Harare overhead costs.

Quality Control	Z$	20/press
Office time w/client on sale	Z$	25/press
Insurance o/press	Z$	?

[1] Estimates provided to the evaluation team by Mrs. Michele Perron, the acting project manager of ZOPP.

Car Insurance	Z$	?
Car Maintenance	Z$	?
Driver Insurance	Z$	?
Other Overheads (rent, phone, utilities, payroll taxes, etc.)	Z$	?

While these figures don't provide much basis for comparison or judgement, they do give some indication that: 1) the selling cost of a press is only the tip of the iceberg in terms of true, total opportunity cost; 2) as long as the project is fully supporting the manufacture and distribution of the presses it is likely to be difficult if not impossible for a private entrepreneur to make a success of competing with the project; 3) estimates of profit potential for manufacturing presses must compensate for other "overhead" costs presently being absorbed by the project which will result in the need to perhaps double or even triple (and maybe even quintuple) the cost of the press so that a manufacturing enterprise can make a reasonable return, and 4) estimates of viability of a pressing business using the more expensive ram presses manufactured by the private sector may result in a non-viable business operation.

8. Sustainability of the Process - Viability of Commercial Manufacturing and Distribution, Costs and Pricing - Having an "exit strategy" and desired end of project results, among which would be the commercialization and transfer or conversion of the project to a viable private enterprise(s), will insure project implementors have a firm fix on the project activity completion date (PACD). Without a clear beginning and end, and without guaranteed financing to ensure EOPS can indeed be achieved, the project is likely to grow without a strategic vision of where it's likely to end. This tendency may be enhanced if a project is financed by multiple donors entering the process at different stages in the evolution of the project. Yet, without sufficient resources of its own, or a donor willing to finance the complete project, ATI is forced to shop the project around to different donors for different pieces of action. Such is the case with ZOPP, where each donor seems to be providing assistance for a different component, e.g., CIDA - women in development.

The team's observations... If the foreigners set social prices to introduce a new technology with an eye to eventually turning the manufacturing and distribution over to private sector indigenous entrepreneurs, the historical performance of the foreign entities with subsidies will negatively impact on the indigenous manufacturers as they begin to charge real prices. The net will be that local buyers/press users are likely to believe local manufacturers are gouging! Evidence of this phenomenon was already observed in Rusape, Zimbabwe where a relatively new entrant had made a couple of presses and was criticized for trying to realistically price his machines. He has since given-up attempts to manufacture (assemble) presses and only sells ZOPP distributed presses at their prices.

Successful interventions must charge real and complete prices including depreciation, reasonable profit margin, etc. The project must work out different scenarios for press breaking even and provide more information on profitability

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parameters to potential users, not just sell the press and claim owners can make profits...

9. Manufacturing and After Sales Service - ATI as the Middle Man - The ZOPP is a project in which ATI has assumed the operative role. Project personnel identify manufacturers (the decision is made by ATI/W), provide them with training, jigs, mechanical drawings and technical supervision necessary to make presses of acceptable quality. The project buys the presses at a "negotiated" price. Project staff transport them to its offices, sell them to interested buyers, transport the press for the buyer to the agreed upon site, install the press, train the operators and return on a follow-up visits plus additional repair visits at no cost to the buyers! Furthermore the project advertises using television, radio, newspaper and spreads knowledge of the press through trade fairs, exhibits and word of mouth. ZOPP has become a proactive non-profit merchandiser and promoter of hand operated ram presses throughout the country.

   While this role has undoubtedly resulted in substantial oil press sales and reputable quality it has also erected barriers to entry by manufacturers/entrepreneurs possibly interested in manufacturing and distributing presses. In discussions below, the evaluators examine the subsidy issue, which if not addressed, will likely result in the death of the hand operated oil press as soon as project finances are exhausted. Likewise, by ATI fulfilling the proactive project implementation role, little, if any, capacity building with indigenous institutions is taking place, i.e., except for press manufacturers, which are constrained to branch-out and do presses on their own due to the high levels of subsidy provided by the project.

   Whoever promotes the press must have machines for sale at different price structures for credit and/or cash, for knock-down or assembled condition, for delivery or pick-up at store, with or without on-site installation and training, etc. In this manner the vendor/distributor can accommodate most tastes and pocket books... If demand for an item is created and then the manufacturer can't offer it to interested persons, you have doomed the item.

   It didn't seem appropriate to the evaluation teem that ATI should be in the position of selling and servicing presses. Part of the commercial dissemination of the press technology should also include assistance in marketing, sales and after sales services to one or more private Zimbabwean entities. ATI should work to ensure the manufacturer(s) are able to distribute the presses on their own and not centralize these activities in the project office, which isn't even a legal entity. ATI might seek a role for the ROMA to become a press distributor, training agency, repair service and possibly a provider of limited additional services related to the hand operated oil press industry, but as a foreign NGO it should not be operative as it has in Zimbabwe.

10. Rural Oil Manufacturers Association (ROMA) - Together with the Intermediate

Technology Development Group (ITDG), a UK based NGO operating in Zimbabwe and promoting the "Tiny Tech" expeller press imported from India (also under a high rate of subsidy related to duty-free entry of the machinery in the name of ITDG - the duty is 70%!), ZOPP has apparently played a limited role in promoting ROMA. Even though ROMA has been organized, it has not apparently been seen as a potential counterpart and has not been on the receiving end of serious institutional support efforts. Although ROMA is now using the ZOPP office two to four hours each day to meet press owners and promote the association, and ZOPP reportedly collects ROMA dues and promotes the organization in its newsletter, a more useful role could be identified for ROMA.

But what might be a role for ROMA? ROMA could continue dissemination (advertising/promotion) of the press and related technology and provide support to/for the industry as more and more persons/groups acquire the press. ZOPP project employees could switch to ROMA. Project operations could switch to ROMA as ROMA activities and ATI might provide financial support to the organization on a declining basis. Press advisory and technical assistance could flow through the association, and ATI could assist it become a full-service trade association. It might even consider including the Z$ 20 membership fee and one year of dues in the price of the press so each purchaser of a press would automatically become a ROMA member. The association would then have to work/earn its way in that "free" year so that high percentages of the membership renewed their relationship year after year. There could be some "fine print" in the literature informing members who join in this fashion that their dues could be refunded if they request so in writing within 30 days of receiving the press. This would provide an escape for those who buy multiple presses and/or for those who just don't wish to participate in the industry. Newsletter and other project (ROMA services) services could be channelled only to ROMA members after the press guarantee period expires. Other mechanisms could also be used to strengthen the association so that eventually it could aspire to survive ATI as a local actor in the ram oil press industry in Zimbabwe. Unfortunately too little efforts seem to be directed toward institutionalizing the ram press service organization and seeking ways to spin-off the industry.

In discussions with the leadership of ROMA it seemed apparent to the evaluators that the association has an attitude of looking for subsidies and a "free lunch". This attitude must change if ROMA is to offer services and be a player in the industry. There is nothing to apologize about. They can be a dynamic organization with a future...its a question of attitude, projection, entrepreneurial spirit and willingness to be innovative and get something done. But as long as the ZOPP office monopolizes press distribution and development activities, ROMA is likely to be over shadowed and eclipsed. Press buyers will feel more important dealing with a foreign organization than dealing with ROMA! Why can't the new to be recruited project director become the ROMA executive secretary and work to build that organization as well?

ROMA has sought financing to establish a credit fund for members to purchase presses and for working capital requirements. Applications were submitted to several programs offering subsidized rates and in both cases the association was told they have insufficient net worth to approve the loan. Lending institutions have requested an ATI guarantee. A trade association which establishes a credit program for its membership is making a mistake. ROMA should not pursue this avenue directly but perhaps could earn commissions from lending institutions by assisting to "package" loan requests and facilitate the process for its membership and the banks. This recommendation was passed on to ROMA by the evaluators.

15. Value Added Chain, Seed Selection and Soil Preparation Through Marketing of Oil - According to ATI, the "value added chain" is all the steps necessary to bring a product from farm to fork. As relates to sunflower, it means seed selection, soil preparation, and other cultural practices, harvest, post harvest processing, crushing, sale of the resultant oil and the left-over seed cake. If ATI is to play-out its rhetoric, it should be intervening at several points along this "value added chain." But that doesn't seem to be the case as the team saw no evidence of agronomic technical assistance, crop budgets, field days, etc.

ATI Zimbabwe has promoted the use of hybrid sunflower seed (part of a technical package?) in order to maximize the rendiment of the ram press. Hybrid seed has a softer, less fibrous shell that does not interfere with ram pressing of un-decorticated seeds. Open pollinated seed, on the other hand, has a harder shell which does not process well in the ram press unless decorticated. Nevertheless, open pollinated seed still produces less oil and the cake is less attractive as its fiber content is high. But of course open pollinated seed requires less care and does reasonable well without fertilizers, weeding, etc. In fact, if hybrid seed is neglected, it is likely to produce less than similarly neglected open pollinated seed.

ATI is not recommending de-corticating machines even though several human powered (bicycle and hand operated) models exist and have been tested by the UNDP sponsored Agricultural Operations Technology for Small Holders in East and Southern Africa (AGROTEC) project. In fact, one of the ram press manufacturers used by ZOPP, Tanroy Engineering (Pvt) Ltd., also manufactures an electric or diesel driven decorticating machine which it is seeking to promote. However, while the team has no evidence to prove or disprove the viability from a business sense, it is our strong suspicion that if a decorticating machine formed part of the "package" offered for sale with the ram press, the cost of the equipment could not be recovered over the useful life of the machine, which may be as little as two years before a major overhaul is required (replace the piston mechanism and cage).

Hybrid seed is more than ten times as expensive as open pollinated seed, but if well cared for, which means good soil preparation, proper fertilizer applications at the right time and good weather, it will pay for itself in terms of excellent yields. But of course resource poor small farmers whose only credit source seems to be the

ZOPP, will find proper soil preparation, fertilizers, chemicals and hybrid seed, which costs up to Z$11.00/kilo, out of reach. In fact, the team was told that farmers are too poor to buy a Z$7.50 bottle of cooking oil and for this reason the Z$6 - 7/bottle oil from the ram press is in demand just to save Z$ 3 - 4/week in oil. But if farmers are too poor to even buy refined, consumer ready oil, how will they ever finance the care required to obtain financially rewarding yields of sunflowers or even buy hybrid seed? The answer may lie in the subsidies provided by the ZOPP.

ANNEX IV

- **NEPAL TRIP REPORT/OBSERVATIONS/COMMENTS**

ANNEX IV

NEPAL TRIP REPORT/OBSERVATIONS/COMMENTS

1. Overview of the ATI Nepal Program:

a. Developing a Seed Industry through Potato Tissue Culture Technology:

Potato is one of the country's main field crops and can be grown from the Tatai subtropical region to temperate zones above 3,000 meters in altitude. It is considered to be the "poor man's cash crop".

Given ATI's objective of identifying economic sub-sectors where interventions will have high numerical impacts, ATI chose potato production as its lead, and currently, major emphasis in Nepal. Potatoes also make an important contribution to the nutritional intake of the populace and, very important to ATI, have high potential as a significant income generator and economic activity for large numbers of resource poor farmers. ATI's potato efforts in Nepal originated in 1991.

Declining national production due to the genetic degeneration of national seed stocks coupled with increasing national demand is a potential problem for Nepal, which, although traditionally a net potato exporter to India, is currently importing. In order to significantly increase national production, the country must overcome the constraints to the availability of seed to remote farming communities. The National Potato Research Program (NPRP) has been working on developing disease-resistant, high yielding potato varieties for the past 16 years and, in collaboration with the National Herb and Plant Laboratory (NHPL), developed the procedures for bio-technology micro-propagation of disease-free cultures of the U.S. variety, MS42.3 and other promising varieties.

Seed production from tissue culture can be very expensive yet in mountainous Nepal the problems of distribution and storage of seed produced at a central location dictate that a technique for producing seed stock at the local level would be very helpful in efficiently making the required quantities of high quality seed available.

In response, the NHPL developed innovative techniques for sand-rooting micro-shoots, a relatively simple procedure that can be taught to farmers who might form future potato seed production businesses. Sand-rooting permits production from micro-shoots and propagation of seed potato in the form of mini-tubers at the local level which, because of their reduced size and weight, can be inexpensively transported to the most remote regions of the country. Making potato seed accessible to farmers wishing to produce potatoes is a principal objective of the tissue culture and sand-rooting efforts.

Successful production of micro-shoots in a laboratory was the first obstacle. After selecting a good tissue culture lab, the next step provided training to a cadre of local

small farmers to produce seed from the micro-shoots. The resultant mini-tubers are further multiplied at the local level or used as seed.

In order to undertake the training component, ATI and New Era, a Nepali NGO with experience and interest in the potato tissue culture technology, signed an agreement in November 1992 with the NPRP and the National Agriculture Research Council (NARCO. The agreement stipulated that ATI and New Era would train local farmers in MS42.3 seed production from lab- produced micro-shoots growing in sterile medium. The principal focus uses sand rooting of the micro-shoots as the basis of a new business opportunity for resource poor farmers in rural Nepal./[1]

Botanical Enterprises, Pvt. Ltd., founded by Dr. Prabha Pradan who had previously worked for NHPL and who was familiar with tissue culture, the National Potato Program, and the New Era approach, was selected by ATI and New Era to produce the micro-shoots for the project as it was believed this lab would produce high quality potato micro-shoots with a minimum of technical problems. The project, as a matter of approach, decided to use only one lab (there are four in Kathmandu) as a quality control measure.

The result so far is that a private lab is producing micro-shoots which are sold to the project. These are provided free to trainee farmers whose production is later purchased back by the project, or the farmers can keep the seed for their own use. One hundred four farmers (INCLUDING 34 OR 35 WOMEN) have been trained and the project continues to accumulate and store seed stocks. But, because of a serious technical problem with viral infections, the production at Botanical Enterprises has been severely curtailed. The project must overcome this setback before it can move forward and it will continue in the current pilot R & D mode for some time to come.

In addition to the key problem in remote areas of lack of good, disease resistant seed stock, another problem for developing a potato seed business is storage. To store and ship seed from Kathmandu is costly and, as the ATI/ANSAB project is trying to show, unnecessary. Using already existing infrastructure and the natural climate, the project is promoting storage for seed and food potato at an altitude above 2,000 meters making unnecessary the need for cold storage facilities. This will enable farmers to store inventories and sell them later when prices are better.

b. Alternative Financing of Small Enterprises through a Venture Capital Fund:

In 1989 the Agricultural Development Bank of Nepal (ADEN) with the financial and technical collaboration of the United Nations Development Program (UNDP) in Kathmandu started an entrepreneurship development training program (Entrepreneurship Promotion for Agricultural and Rural Development - EPARD). The objective was to train low

[1] ATI's current principal collaborator in Nepal and Coordinator of the ATI initiated Asia Network for Small Scale Biotechnologies - (ANSAB) worked with New Era at the time and was a principal Nepali proponent of tissue culture micro-shoot production and sand-rooting techniques.

income rural small producers in business concepts and improved business management. As is often the case, training alone raises expectations and enthusiasm, but leaves the financing question to the side.

In 1992 ATI Washington saw a target of opportunity for a new project under its alternative small producer financing objective that could be piggy-backed onto the EPARD training effort. Given purportedly good relations with the Managing Director of the ADBN, ATI recommended the inclusion of a venture capital mechanism in the EPARD Project. The ATI venture capital scheme approved and partially funded by the UNDP. US$150,000 was contributed by the UNDP as seed money and ATI was given a technical assistance contract, also financed by UNDP, to design the venture capital system and then provide business planning and management technical assistance to entrepreneurs selected to receive financing. The project was conceived and managed by ATI. One local hire ATI-financed technician was fielded to provide technical assistance in business management subjects and to review projects.

The project ended in late 1993 with between 18 and 21 businesses financed. According to the EPARD final report, six ADBN staff were trained in "business plan formulation, risk assessment and management, and other venture capital practices."

c. Bio-diversity: Non-timber forest projects in Humla

In 1994 the first steps were completed in the Humla Bio-diversity project in northwestern Nepal. By June 1994 an inventory of non-timber forest products was completed and an initial selection of plants for processing in small producer businesses were identified. A bio-diversity unit within the regional ANSAB project has been established and a local NGO, the Humla Conservation and Development Association, was created to accelerate the conservation and sustainable use of local resources.

A proposal has been presented to the Bio-diversity Conservation Network in Washington for consideration for continued financing.

2. ATI's Regional Program: The Asia Network for Small-Scale Agricultural Biotechnologies (ANSAB)

This is a regional program based in Nepal. It is a direct and convenient spin off of ATI's potato tissue culture efforts. ANSAB's current Coordinator, Dr. Ghan Lal Shrestha, worked previously for the New Era NGO and was instrumental in promoting the MS42.3 potato variety. He is also active in the development and oversight of ATI's subcontract with New Era for the training of rural farmers in sand-rooting of micro-shoots and grow out of mini-tubers and seed stock.

ANSAB was started in 1992 when, according to Dr. Shrestha, after the 1991 Brazil convention, it became abundantly clear to ATI's Asia Program Director that bio-diversity and related conservation issues would soon become the "name of the game" and command good possibilities for substantial funding. ATI seized the opportunity and suggested to ANSAB's

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current coordinator, who had been considering similar bio-diversity efforts unilaterally, that the time was right to start a regional effort such as ANSAB and to join forces. It was agreed to start ANSAB and in 1992 ATI and the Government of Nepal reached agreement the new organization could be headquartered in Nepal. ATI was able to secure initial funding through its leveraging operation. The primary function of ANSAB's eight country network in Asia is to make available ATI's technologies in bio-fertilizers, bio-pesticides, plant tissue culture, and mushroom production to small farmer/producers on a large scale throughout the Asia Region.

The Asia Program Director of ATI is on the ANSAB Board of Trustees and is responsible for project identification, proposal writing and fund raising. ANSAB, while a Nepali organization is, as is so frequently the case in ATI's "partnerships", a very ATI centered and controlled program at this stage.

3. Findings of the Evaluation

a. Financing ATI's Pilot Projects - Getting a Sense of the Levels of Subsidization

Initially, 100% of ANSAB's costs were financed by ATI. Outside donors are beginning to contribute to some of the ANSAB personnel costs, however, and ATI's contribution has been reduced to approximately 70%, according to the ANSAB coordinator. Two staff positions in the bio-diversity and rhizobium projects are being covered by IDRC and the Ford Foundation, respectively.

In addition to the costs of training personnel and other project expenses, all production materials (including the micro-shoots) and equipment for the potato project's farmer training programs, mini-greenhouses, and other expenses are financed by the project.

During the period in which ATI's projects are in the R&D stage of development, or, what the evaluators call the pilot phase, commercial viability and future sustainability are really non- issues for ATI. All costs are paid by the project as the experiment plays out.

The evaluators were told by the owners of two of the four private tissue culture labs in Kathmandu that no one is making any money at potato tissue culture. They do other types of cultures, for example aquatic plants for export, to make money.

While the NPRP did not give us their production costs, the evaluators were told it was contemplating raising their selling price per mini-tuber seed to Rs 2.00 to Rs 3.00 based on the project's current operating costs only. No amortization or depreciation expenses are included. One private lab owner indicated that no commercial operation could produce at those prices. He calculated that his sales price per mini-tuber would have to be about Rs 30, or about 10 times the government's new subsidized price, to make tissue cultured potato seed production a commercially viable operation. This gives an indication, at least, of the level of subsidy involved in this technology.

b. Potato Seed Project: This project is highly criticized by the Department of Agriculture, the National Agricultural Research Council, and the National Potato Research

Program (NPRP) for its insistence on promoting the MS42.3 seed variety. The Swiss have been assisting the program for 16 years and they have also been working on the propagation of seed all this time and categorically rejected its approval by the seed board.

The NPRP/Swiss technical program rejects the MS42.3 variety on the grounds that it is susceptible to warts in many parts of the country and is only a good seed for a relatively reduced locale. Therefore, the NPRP contends that the variety does not merit seed board approvals. ANSAB and New Era personnel continue to try to get their variety accepted, but as long as the NPRP is represented and influential on the Seed Board, acceptance will be difficult. While not necessarily fatal to the MS42.3 variety, the NPRP can affect the variety's acceptance and commercial viability by not endorsing it or, actively trying to discredit it. There also seem to be personality/face saving issues involved as well as potential other conflicts having to do with the personal business interests of some Department of Agriculture staff.

Also, ATI/ANSAB are working on a different premise than the NPRP. The NPRP believes the transport of micro-shoots is very difficult and a large scale project based on very tiny scale locally-based sand rooting efforts will never reach more than small local population groups and limited numbers. ATI/ANSAB contest this assumption, saying that local production of mini-tubers from micro-shoots with large scale local planting of seed stock is the way to get widespread propagation of seed with value adding benefits to small local seed producers. ATI/ANSAB claim this technology is not overly difficult and is replicable with small farmer producers if training and follow-up is adequate.

The net result of the strained relations is the isolation of the ATI/ANSAB program from the official seed potato mainstream in Nepal. ANSAB is trying to ameliorate the situation and will apparently promote other varieties in addition to the MS42.3 leaving the choice to the individual farmers. Yet the question of viability of a commercial seed potato business/industry in Nepal based on tissue culture, sand rooting and mini tubers is still unanswered.

c. The Venture Capital Project

One of the principal objectives of venture capital is to provide equity financing to high risk, innovative businesses that have substantial potential to generate high returns. A profile of the businesses financed, however, shows very few - perhaps two or three that are truly innovative using out-of-the-ordinary technologies. The UNDP representative who we spoke with, Naheed Atiq Haque, was told the ADBN, on ATI's technical guidance. recommended diversifying the portfolio with the inclusion of traditional businesses in order to reduce and spread the risk. In doing this, the portfolio appears very much like any other small enterprise loan portfolio. This being the case, Ms. Haque contends may have been better to simply start a normal revolving small enterprise credit fund along similar guidelines to those of ACCION International, for example, without all the equity based intricacies and risks of this venture capital operation.

While it is still early to know whether the venture capital fund will survive or decapitalize through write offs of failed businesses, so far only one business has bought back the equity shares purchased under the program. Our UNDP contact in Nepal, Ms. Naheed Atiq Haque, believes the project will probably turn into a "glorified grant" operation eventually.

Ms. Haque, who is a principal manager involved with the venture capital project for the UNDP, believes the probability of the ADBN "institutionalizing" the fund is a long shot and is concerned nothing is likely to follow UNDPs investment. She was concerned in the final conference on the venture capital project, "ATI did all of the talking." It seemed to the evaluation team the interest and initiative was principally ATI's.

ATI, in complying with its objectives of leveraging non-USAID funding and developing partnerships, may often be put in the position of being the unilateral originator and enthusiastic proponent of projects. This appears to have been the case with the ADBN in the venture capital project. Reportedly, there were spurts of activity according to whether ATI Washington was present or not.

Being the initial strong proponent of a way of doing things in an organization is not a negative, necessarily, as long as the project goes on to develop enthusiasm and support in the partner organization. One of ATI's major positive contributions to development as an innovator can be to influence formal partners and collaborators in a direction which will positively influence their impact. But ATI does not seem to have had this kind of influence in the ADBN venture capital case.

d. The Relationship between ATI and USAID

ATI's relationship with AID has been distant. ATI appears to have taken the position that it has a program to carry out and any involvement or relationship with AID is unnecessary. However, given the problems that ATI/ANSAB is having with the promotion of the MS42.3 potato variety, it would initially appear that a closer relationship with AID might be advantageous in this regard, since AID is promoting this same variety of potato in an integrated regional development project. According to the USAID Mission in Kathmandu, it believes the MS42.3 variety to be superior to others. USAID was somewhat aware of ATI's program and was generally supportive despite their mutually hands-off type of relationship.

The issue of the relationship between ATI and USAID arose again in a different context, this time with regard to coordination with the AID sponsored Agro Enterprise Center (AEC). The AEC was created to focus on the private sector's role in the development of agricultural industry in Nepal. ATI approached the AEC seeking assistance two years ago, however, according to the AEC director, ATI's proposal was not funded due to basic philosophical differences relating to enterprise development and the roles each organization views itself performing in Nepal. In the words of the AEC director, "All ATI's proposal focused on was training. They were unwilling to consider enterprise development as one of their objectives at that time." Reportedly, ATI is preparing another proposal to reorient its thrust to contemplate organizing seed potato producer association(s).

The evaluators are not surprised there may be philosophical differences between the AEC and ATI/ANSAB/New Era particularly since the AEC seems to view its clientele as the business oriented entrepreneur/trader - a more sophisticated level than the small, village-level dirt farmer.

e. Management

ATI's operations in Nepal, despite appearances of participatory management, have seemingly been directed, ultimately, from Washington with most decision-making being done long-distance. In the venture capital initiative, while ATI hired and trained a young Nepali technical trainer to work with ADBN venture capital staff, his role was not to set policy or program direction. That role was handled long-distance by ATI Washington. ATI on-going expertise to provide real guidance to program development, appears to the evaluators to have been lacking.

In both the ANSAB regional and Nepal country programs Washington has been instrumental in proposing and developing the projects and technological approaches it is taking. This can be positive developmentally if institutional strengthening is taking place concurrently in the organizations that will be responsible for producing and/or marketing the technology after conclusion of project funding. Recognizably, this is difficult to do by remote control without a strong ATI field presence.

As for the venture capital scheme, the project is over and no ATI involvement is currently present.

f. The Virus Issue

The potato project has recently had a major setback. There is no reliable method to screen tissue cultured micro-shoots for virus infection and it is believed material given to farmers for sand rooting and propagation of mini-tubers may have inadvertently become virus infected. Participants who completed the last cycle of training recently reported up to and possibly exceeding 10% of their plants appeared to be virus infected. Plants showed symptoms of virus infection, i.e., they had yellow, shriveled leaves and didn't bear tubers. Without virus detection techniques (field kits provided by the International Potato Center) and sophisticated equipment, the project cannot produce and issue new laboratory produced micro shoots as the risk of virus infection is too great. Reportedly, the machine needed may cost upwards of US$ 100,000.

A request has been made to the FAO for assistance, however, any assistance received will no doubt be channeled to and through the government as the FAO doesn't have the ability to deal directly with the private sector. And this could hit a snag due to the fighting between the GON and the ATI/ANSAB group relating to the MS42.3 variety. Furthermore, providing the $100,000 piece of equipment as an investment to the tissue culture firm - Botanical Enterprises (Pvt) Ltd - working with the project doesn't seem to be a viable investment to screen several thousand bottles of micro shoots for a few hundred farmers in Nepal.

ANSAB and ATI have also made overtures to the Central Potato Research Institute in India and the International Potato Center in Peru to obtain virus screening kits, which apparently can detect virus infected plant material/seeds. So far requests for information, assistance and kits have not been answered. Again, the politics of the situation may influence the kinds of support forthcoming from these primarily public sector organizations.

4. Conclusions

a. Potato Seed Production: The R&D subsidies to developing the potato tissue culture project have been high in both producing and testing the MS42.3 variety and in covering the entire costs of farmer training. These up-front costs are usual in this kind of technology development and transfer. In order for ATI to use the technology to "transform small producer economies", that is, to develop micro-shoot potato seed production into a local, profitable business for Nepali farmers, it must be commercially viable at the post-experimental stages all along the "value chain" (commercial micro-shoot production, sand-rooting, grow-out, commercial seed production, multiplication, and marketing). Recognizing the need for up-front R&D subsidization in the technology development phase, subsidies eventually need to be eliminated from the on-going operating expenses (including depreciation) of the commercial production, distribution, and marketing business in order to determine commercial viability and sustainability. The question for ATI and USAID is how long can an ATI project remain in the pilot phase?

The Nepali government with Swiss help has been subsidizing potato seed development through traditional approaches for 16 years, beginning with tissue culture technology more recently, and it is still a pilot project. Indications are that the government program will continue to heavily subsidize potato seed production after the Swiss finally pull out of the program next year, under the assumption that governments all over the world subsidize this kind of research and development.

This means that eventually ANSAB/ATI will have to compete with the Nepali government's heavy subsidy unless, of course, the GON gets out of the potato seed business. ANSAB/ATI more expensive seed stock will have to generate returns to the farmers that justify a much high production cost to them/[2] as opposed to the alternative: highly subsidized government seed. Whether ANSAB/ATI's seed production system can result in a viable, profitable small producer venture under these circumstances remains to be seen, but current indicators make that a questionable hypothesis.

Finally, the tally, is that 104 ATI/ANSAB trained farmers understand the technology, have used a new technique to produce mini-tubers, and are positioned technically to produce potato seed once the viral issues are solved. Whether this result so far has been worth the investment is still unanswered.

[2] This is reminiscent of the hybrid sunflower seed situation in Zimbabwe.

b. The Venture Capital Experiment

It is the evaluation team's conclusion that since ADBN had not put up any of the seed capital for the fund and given that the overall loan recuperation rate in the Bank is only 40%, even with its own funds, this does not bode well for successful follow-up and continued viability of the venture capital fund. Since the UNDP does not see this as a successful experiment, nor is it anxious to increase its contribution to the venture capital fund, chances for the project to be sustainable are slim.

Based on this venture capital experiment, ATI top management is right to have concluded that its venture capital experiments have not been successful. The evaluation team also concludes that ATI is better served looking toward other kinds of alternative financing mechanisms to fulfill this objective of its program.

ANNEX V

REVIEW OF COOPERATIVE AGREEMENT AMENDMENT

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ANNEX V

REVIEW OF COOPERATIVE AGREEMENT AMENDMENT

I. GENERAL COMMENTS

The cooperative agreement as amended is a document far too restrictive, complicated and detailed. The language used telegraphs the impression the donor is highly suspicious of the recipient and is attempting to close-off all escape routes so the client can't avoid any obligation or responsibility. The ATI correspondence relating to negotiations of the amendment illustrates its lack of understanding of the basic elements of AID jargon and grant making norms and reflect ATI's attempt to "protect" itself from AID. But the end effect of the language and structure in the amended agreement is to make it difficult to monitor, confusing and almost impossible to meaningfully report-on without maintaining a staff dedicated to massaging numbers and "word smiting". The Schedule and Program Description are overlapping and incomplete although flooded with extraneous detail which is better dealt with outside the formal document. Yet the Program Description doesn't really tell what program, when and where. How can an organization be evaluated and held accountable for achievements if its protocol with its principal or core donor doesn't spell-out what it hopes to accomplish with the money?

The objective of Federal assistance, whether from AID or some other source (e.g., directly from Congress), is to serve some Federal objective and/or assist the recipient organization accomplish its goals, which in themselves would likely match some Federal purpose. In this process it would seem to make sense if assistance also focused on helping the recipient become more financially independent and capable of carrying-on its mission without continual Federal assistance. It is unreasonable to believe the founders of the organization, whether from AID, Congress or simply private citizens, intended a private organization to be forever dependent on receiving all or even a substantial portion of its revenues from one single donor, i.e., the American taxpayer. If this had been their intention, then ATI would undoubtedly have been a Federal agency with directors appointed by the Executive Branch. But no, ATI is a private organization with a self perpetuating board and management that has shown pride at being private. Over time the organization has tried to distance itself from its major or core donor, AID. It considers itself "different" and not in existence to provide service to the Agency or its field missions.

Therefore, as a private, non-profit, 501(c)(3) organization it seems reasonable to expect both the Agency and ATI would seek ways to become more independent and capable of raising non AID funds to further its objectives. If ATI could be "graduated" from depending on AID/W (or Federal) central funding for everyday "core" expenses and activities, a significant development goal will have been accomplished. But the language in the amended CA gives the opposite impression, i.e., control and mistrust.

II. SPECIFIC ISSUES IN THE COOPERATIVE AGREEMENT (CA)

A. SCHEDULE - Attachment 1:

1. Purposes and Objectives of the Program/General Structure of the Cooperative Agreement (CA): Most of these items are really meant to be included in the Program Description - Attachment 2, and not in the Schedule, which is normally the legal part of a CA. A Schedule usually specifies the Provisions to apply, lays out the financing mechanism, specifies the budget, reporting requirements, substantive involvement, etc. Other than perhaps a general one sentence statement establishing the overall general purpose of the agreement, the remainder of the Schedule usually refers to the legalities of the understanding.

2. Period of Agreement: Although the original agreement period is from 9/30/89 - 9/29/94, the effective date of the amendment and all the indicators, terms and conditions should be carefully spelled-out. When does the amendment take effect? This seems important as several provisions are new and ATI might indeed have violated a specific and new clause prior to the effective date of the agreement. But if the amendment is not signed soon, the entire exercise of mid-term evaluation, PES and amendment will be a moot issue as the PACD is still 9/30/94!

3. Amount of the Funds to be Provided: There seems to be some discrepancy in the actual amounts of funding provided. In the version of the document reviewed by the evaluators, no budgetary information was provided. With a good summary budget, yearly and period of grant detailed activity budgets, and supporting budget explanatory notes, most of the authorized activities are spelled-out. This might clarify some of the misunderstandings and issues that continue to be raised. In subsequent discussions with the AID/W project officer and ATI, it was learned that detailed budgets are not provided and that apparently they are not requested by AID/W.

4. Buy-Ins (Mission Participation)- Sub-Project Activity: Central Program Support Grant (CPSG) buy-ins must certainly be supported by the language in the cooperative agreement as a "buy-in" is just that, i.e., a Mission (or central bureau) providing additional funding to undertake mission specific activities in furtherance of the purposes of the CA. If the cooperative agreement is to build and disseminate widgets, a proposed buy-in to undertake a study of possible alpaca herder problems would not be consistent with the terms of the grant. The language in the CA amendment reviewed by the evaluation team restricts buy-ins to "...add-on research activities..." Instead of providing flexibility to undertake a wide variety of buy-ins supportive of ATI's CPSG the current language in the proposed amendment further restricts the ability of ATI to obtain buy-ins.

Furthermore, there appears to be no need to include all the AID and ATI procedures for buy-ins in the CA itself. This kind of language clutters the CA, confuses the grantee and seems unnecessary. This procedure is an internal AID issue and can be dealt with through an exchange of letters with ATI and a world-wide AID cable

spelling-out the parameters of the ATI CA buy-in and procedures Missions and ATI must follow.

Another important issue worthy of mentioning is that a buy-in facility contained in a grant instrument is different than a buy-in facility in a contract. A grant funded buy-in mechanism is specifically for and in benefit of the grantee's program and is not for the direct benefit of the USAID Mission. Therefore buy-ins to a centrally funded grant should be "initiated" by the grantee as opposed to being initiated by an AID Mission.

6. Substantial Involvement: This component of the CA amendment should provide for "substantive" (as opposed to "substantial") involvement and assistance to the organization from AID/W. If managed properly, this involvement should include the responsibility of assisting to establish and maintain good working relationships with AID/W and its field missions.

a) Participation in selected board meetings is an excellent opportunity to provide guidance and assistance to the organization.

b) Approval of Work Plans by the PO is another important tool for AID to ensure funds are properly used in accord with the general and programmatic terms of the CA and that the grantee focuses on those programs and activities contained in the Program Description of the CA. However, it seems a bit much to actually specify the outline/format of the work plan as an attachment to the CA (See Attachment 4). It would seem a simple clause stating the work plan will be agreed to by the parties prior to the first obligation and that a letter from the AID PO to ATI providing the work plan format - that presumably had been designed with ATI participation and agreement - would be far simpler than putting the format into the CA. To change the format, if it is included in the agreement, becomes another amendment for an already over burdened Office of Contract (Grant) Management in AID/W. Of course having the outline in the agreement "protects" the grantee from frivolous and/or arbitrary changes imposed unilaterally by AID project officers.

c) Item 3, examining "CORE/Sub-Project Activity budgets" (assumed to be buy-in budgets contained in the buy-in PIO/T, although the term is not defined in the Glossary of Terms - Attachment 6), should also specify the proposed scope of work be examined and that the AID/W project officer (PO) should give administrative approval, assuring the activities subject of the buy-in request are indeed consistent with the CA objectives.

d) Approval of standard report formats is an acceptable and logical "substantive" involvement, however incorporating the report format into the CA vis-a-vis an attachment also seems to be a bit much. Once again, to change the report format would require an amendment of the agreement, an unnecessary and complicated procedure.

e) Review of program activity agreements which are funded in whole or in part with CPSG funds may be appropriately included as a substantive involvement of the AID PO, however, what purpose does this review serve? Is it intended to ensure ATI is not undertaking activities prohibited under Federal legislation or too far astray from the principal thrust of the CA?

f) One of the principal functions of the PO in AID's relationship with ATI is in public relations within the agency and trying to persuade ATI to work more closely with USAID Missions, other central bureaus, and of course assisting ATI in its quest for other donor funds. This role is probably one of the more crucial substantive involvement issues listed in the CA amendment.

7. Program Management Reporting - The Annual Work Plan: Linking levels of effort to achieve a targeted output and the mix of personnel and disciplines needed to accomplish these tasks seems like an exercise requiring substantial time with limited tangible usefulness for the grantee or AID.

Specifying outputs and activities to be undertaken within each CPSG category for the coming year, estimates of other donor funds/grants to be signed (new business development targets - hopefully by region), targets for key purpose and goal (impact) indicators, and a planned line item budget (plus possibly budget detail and explanatory notes) together with a pipeline analysis illustrating funding requirements for the year would seem to be sufficient guidance for ATI in putting together its annual work plans. Specifying the number of pages and the table of contents of the work plan is superfluous and should not be in the CA.

The PO and ATI should develop a work plan format for AID approval from time to time during the period of the grant. It's not necessary to include an actual outline as the CA. Once again, by trying to spell-out too many details in the CA, the Office of Contract Management will be burdened if changes are required or desired later on.

The CA amendment specifies the CY work plan should be submitted before October 1st each year. This seems a bit early, especially if the work plan corresponds to the calendar year (Jan 1 - Dec 31). This is not specified either. If there is need to provide certain financial data for additional obligation requests, this can be done at any time. But the main draft work plan submission should come closer to the end of the CY, yet before January 1st.

Lastly, should the AID mandated work plan in the CA be all inclusive? For example: the work plan format is for the whole organization, i.e., all ATI's activities. In this respect it is more like an organizational business plan than a grant work plan. Yet the CPSG is only a portion of the direct funding received and programmed by the organization. Isn't it reasonable to expect ATI only report to AID/W on activities funded in whole or in part with CPSG funds? If CPSG funds are used to finance the

development of a strategic plan and annual business plans, these documents become outputs of the CPSG but are ATI internal documents.

The approach to structuring the CPSG more toward discrete project oriented activities outlined in other sections of this memo, would facilitate reporting, clarify issues such as the above and move the dialogue and relationship between AID/W and ATI onto another plane.

Semi-annual Progress Reports: As discussed above relating to the work plans, it appears including the actual progress report format as an attachment to the CA may be too limiting. This can best be handled vis-a-vis a letter from the AID/W PO after developing an agreed upon format.

If the three point outline in the CA amendment (Schedule, B.2. a - c) indicating minimum information to be contained in the semi-annual progress reports, could be bolstered by adding sections relating to a summary of highlights/achievements, issues/constraints (problems encountered & measures being taken to remedy the problems), a financial report (details in Article VI.A. Financial Reports), and a section on important accomplishments to be achieved next semester, this should be enough "guidance" on how to do the progress reports.

8. Special Provisions, ARTICLE VII: Most of the special provisions listed in this section of the Schedule are the subject of one or more Mandatory or Optional Standard Provisions incorporated into the CA in item 11 of Article VII. It would seem only waivers or exceptions should be noted here to further simplify the agreement.

B. PROGRAM DESCRIPTION - Attachment 2

In general the Program Description included as Attachment 2 is far from that... It is more of a re-hashing of some of the items already spelled-out in the Schedule, Attachment 1, and does not really describe **what** ATI will do with the funds provided by AID, **how** it will carry out the activities to be financed by the CA (management and reporting plan), **what** will be achieved, **when**, and by **whom**.

Items in the Program Description that do not contribute to the description of ATI's program do not belong and should be either included in the Schedule or dropped altogether. The Program Description is basically an ATI document or is prepared by the PO as a executive summary of material submitted by the grantee. If the PO and/or the grant officer are unable to prepare such a summary, frequently the grantee's proposal is attached in its entirety.

Fourteen months after signature of the Original CA, ATI forwarded a five year plan to AID. This document is much more like a program description than the language in either the original agreement or the amendment. Yet it languishes in the AID/W files and was never incorporated into the CA. To complete this document only activity budgets and summary budgets would be required.

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The following comments offer some observations and/or suggestions on the Program Description included as Attachment 2 of the proposed amendment.

1. General: In several places the document mentions endorsing ATI's new approach and providing the grantee with additional or greater flexibility. It also purports to modifying and clarifying the language, definitions, objectives and progress indicators. While this language may in fact be the reason for amending the agreement, it does not belong in the Program Description. Furthermore, the amended Program Description seems poorly organized, does not describe what is to be accomplished and how, etc.

2. Program Activities: In this section of the Program Description, ATI should describe what it is going to do with the AID funds, how it will accomplish its mission, where, when, etc. The current language does not fulfill this condition. Schedule items are mixed with Program Description items and with justifications for processing the amendment. It needs major surgery and re-writing...

A few comments:

a. Funding for the CA can apparently be used by ATI to "...finance core operational expenses of ATI/Washington and its branch offices overseas." What is left out is defining the nature of the HQ and overseas expenditures which may be financed with CPSG resources. If the agreement is better structured and written around several discrete activities to be financed, there should be discrete budgets for these activities, expected outputs, probably some end of project status conditions ATI would hope to reach by the expiration of the grant and even possibly some purpose indicators as well. This would contribute to the measurability of ATI performance.

b. If financing is provided for overseas ATI offices to carry out the general functions of ATI, these costs should not be project specific, except perhaps project monitoring and supervising efforts. If a branch office is not part of HQ general activities, e.g., it is providing specific T/TA to one or more on-going projects, the costs of maintaining the office should then logically be project specific and not HQ based. To pay all or part of project specific overseas office costs with CPSG funds is to subsidize that specific project with AID/W funds, unless of course the project agreement(s) specifies a certain "contribution" from ATI/W and this is within the terms and scope of the CA, as amended. In the case where the overseas project is financed by a non-US source, e.g., UNDP/UNCDF, and CPSG funds are being used to subsidize the operation, critics might justifiably claim AID/W is subsidizing the international organization.

3. Substantive Program Areas: The general description seems reasonable but probably should be expanded and more substantive material provided. i.e., quantitative indicators. Other comments include the following.

a. On page 3, bottom of the Program Description, the CA correctly states that "...an environmental determination will be made..." regarding whether

a full-blown EIA, an IEE or a categorical exclusion will be required. Unless stated and/or spelled out in the regulations, there is no reference as to who will make this determination. Furthermore, this is an item for the Schedule, not the Program Description.

b. The CA amendment lists nine major classes of small and micro-scale producers with which ATI will work. This seems excessive and might be reduced to three or four. In fact, this kind of language is better in a strategic plan or corporate brochure rather than in the CA and/or the grant amendment. If ATI adopts a Mission Statement and has a strategic plan (which might become attachments to the CA or any amendment, or even might become outputs of the CA), the limits on what classes of producers are being assisted could be spelled-out in these documents and not in the CA or an amendment.

c. On the bottom of page 4, language regarding relocation or expansion of U.S. enterprises outside the U.S. should be in the Schedule and not in the program description. If a General or Standard Provision exists to regulate this possibility, it only need be referred to.

4. Field Operations: Given that CPSG funds in the current CA are destined for general support for ATI's overall program, defining what the funds may be used for is logical. The Program Description is too general and does not say how these activities will be carried out, nor what outputs the activities may generate and what quantifiable results can be expected at the end of the program.

5. Sub-project Documentation: The majority of this language should be moved to the Schedule as it refers to contract-like matters. If the ATI Program Description contained a section regarding program management in which it described supervisory and monitoring activities, project reports, work or implementation plans , etc. it would logically fit here. Other specific comments include the following.

a. ATI documentation to be sent to AID - this language clearly belongs in the Schedule, not the ATI Program Description. To the extent ATI uses AID/W funds for general support of its overseas activities, forwarding copies of any program activity agreements signed with whomever is reasonable. However, it might be more reasonable to request brief summaries instead of the actual agreement, which may be proprietary or reserved.

b. ATI and implementing organization documentation to be sent to AID - Again, this language clearly belongs in the Schedule. This clause should apply only to the extent activities are financed by AID USAID. Where no AID/USAID resources are involved, copies of project agreements, and other funding documents do not need to be sent to AID/W. Instead, quarterly or bi-annual summaries could be sent reporting such items as the instrumental leveraging amounts, etc. Likewise, it would seem project partners financed with non-AID/USAID resources need not report to ATI using the overly complicated progress and financial report formats specified by AID/W. ATI should be

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encouraged to adopt reasonable reporting formats and frequencies that allow them to accumulate indicators appropriate to determining achievements of the organization, but should not necessarily be obligated to follow AID/W formats.

c. Suspension of reports on sub-awards - While this language is acceptable, it would seem there should be a Standard or General Provision - probably OMB A-122 - that covers this. It may not be needed in the CA. Furthermore, this language belongs in the Schedule, not the Program Description.

6. Capital Contributions for Field Activities: Use of capital contributions for field activities - While this clause is generally good for ATI, it too belongs in the Schedule.

7. Financing and Diversification of Funding: The indicators look good and this type of quantified purpose indicator is correctly included in the Program Description. Encouraging ATI to become more self sufficient and less dependent on AID/USAID funding should be one of the major goals of the AID financing.

8. Program Implementation: The methodology of incorporating annual indicators in the ATI work plan seems sound, however, life of CPSG indicators should be included in the application for assistance or proposal ATI submits seeking CPSG funds, subject to annual adjustments vis-a-vis the annual work plans. Justification for changes in the magnitude of the indicators or for adoption of new indicators should be requested.

9. Impact Indicators: A specific discussion of the impact indicators is presented below corresponding to Attachment 5. Generally, however, impact indicators should report changes in human conditions such as increased incomes, better lifestyle, improved nutrition, etc. Output, purpose and end of project status indicators are process indicators and are usually contained in the Logical Framework Matrix (or similar planning summary) presented with any proposal for AID assistance. These indicators are tracked during project implementation and reported in periodic reports. Impact is usually measured after projects have been completed or at least near the end of the project.

Attributing and measuring impact of CPSG funds on the ultimate beneficiaries is difficult and of questionable benefit. What is being asked is for ATI to evaluate its overall performance as a development organization and to justify its very existence to AID/W in return for a CPSG. It is akin to asking AID to report to Congress on achievement of overall development impact to justify the concept of development to the American taxpayer in a situation where only 1/2 of AID's direct resources are US taxpayer funds. If CPSG funds are used to develop new projects funded by non-Federal resources, or are used for general items such as publishing newsletters, evaluation reports, etc., attributing the CPSG to increases in income by small farmers in Third World countries is all the more fruitless.

The question remains, therefore, how to measure the impact of Washington-based funding for covering part of the rent of the HQ office, or developing

new projects or simply for maintaining a capacity to assist AID/USAID Missions? It would seem simpler and less burdensome not to try to attribute CPSG funds to specific impacts at the ultimate beneficiary level. Instead, Output, Purpose and EOPS indicators relating to specific and discrete projects (activities) to be financed with CPSG funds as well as the capacity of ATI to undertake its mission without AID/W CPSG funds, would seem more important than trying to attribute CPSG funds to increases in incomes and productive capacity of small farmers in the Third World. And since ATI is now successfully mobilizing non-Federal resources to undertake projects in developing countries, trying to attribute Federal CPSG funds to success in increasing incomes seems a waste of time and effort.

ATI may wish to develop impact and project implementation monitoring and management information systems to report impact figures on individual projects for specific donors; to monitor implementation, study and report on lessons learned; and, to train their overseas and domestic staff and partners in this important task. In fact, financing the cost of developing the department and process and impact systems, absorbing costs of its operations, and costs of training ATI and partner overseas staff in impact and project implementation technology, would make sense as a CPSG financed activity or cost center. Indicators of success in such an undertaking would be numbers of people trained in the system, number of reports generated, number of institutions (partners) adopting the ATI developed systems, etc. ATI could then use aggregated data and specific reports in their marketing program to document the effectiveness and efficiency of ATI as a development organization. And partner and/or beneficiary organizations would obtain a similar capacity - a laudable development goal in its own right and significantly ahead of the AID curve.

10. Management Plan: A normal proposal document applying for Federal assistance, would contain a management plan plus a financial plan. In the management plan, the requesting agency would lay out how the program and project will be managed. The role of headquarters, field offices, etc. and the various departments would be spelled-out, either in general terms for a large agreement or more specific for a smaller field project. The point is, the management plan is the proposing organization's plan, not AID's plan!

The material included in this section under "1. USAID Involvement" should be in the Schedule, not in ATI's program description, unless of course it is a "joint" undertaking between AID and the grantee.

As insinuated above, this section should describe ATI's management plan for implementing the CPSG. What appears here does not accomplish that objective. Much of the language in items "2. ATI Involvement," items a - f, are contractual language and do not belong in the Program Description, but may belong in the Schedule.

11. Financial Reports: This item belongs in the Schedule and not in the Program Description. The reports itemized seem to be in order and are normal reporting items even with a Federal Reserve Letter of Credit financing mechanism.

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12. Monitoring and Evaluation: Most of the language in this section has a "contract ring" and seems not to have been written by ATI. It sounds like AID imposing conditions on the grantee. Some of the responsibilities listed are AID PO responsibilities and might logically be in the Schedule or deleted altogether.

However, any good program description will have a monitoring and evaluation plan as part of the proposal document in the language of the grantee.

The comments regarding impact and process evaluations noted above are valid comments to repeat here as well. It seems the system being described mixes impact with normal project management monitoring and reporting activities.

13. External Evaluation: This concept should be contemplated in the program description if financed by CPSG resources. However, if it is an AID/W contracted external evaluation, there is no need to include this language in the CA or the amendment; it just clutters and confuses the principal focus of the document. The donor organization always has the ability and freedom to evaluate, at its discretion.

C. PROGRESS REPORT TABLE OF CONTENTS - attachment 3

As mentioned several times above, the actual outline of the periodic progress report does not belong in the CA and/or the amendment. Suffice it to say the format of the actual report is something that should be "negotiated" between the AID PO and the grantee and finalized with a letter. But it is important to ensure wording to this effect is in the Schedule of the CA so there is no mistake about reaching agreement on the format and not allow AID to unilaterally impose a format. The author experienced a cooperative agreement which was obligated to report quarterly. In the first year alone the USAID project officer changed the format three times...

Progress reports should be useful management tools of the grantee to ensure the objectives of the agreement are being reached; that specific inputs, outputs, purpose indicators and end of project status conditions are being achieved. The president of the organization and the board of directors can use these documents to evaluate achievement of results. If strategic and business plans have been prepared, progress reporting should inform how well staff is carrying out their responsibilities, how expenditures are running in comparison to budget, status of corporate reserves, success (or lack of) in new project development, etc., etc.

The ATI periodic reports and work plans examined by this consultant seem overly complicated, much too long and detailed and presented in a fashion in which the information seems buried, and difficult to visualize. It would seem major effort needs to be placed on making the reports both more useful to ATI as well as shorter, punchy and perhaps more graphic instead of page after page of tedious narrative!

D. ATI WORK PLAN TABLE OF CONTENTS - Attachment 4

As mentioned several times above, the actual work plan outline or format does not belong in the CA or the amendment.

In general, however, the 1994 Work Plan examined by this consultant was complicated, difficult to read and didn't give the author a real picture of what was planned during the year. A proper work plan would also include financial budgets (inputs) in addition to outputs and other indicators of achievements expected during the year.

E. INTERNAL PROGRAM IMPACT INDICATORS - Attachment 5

The indicators documented in Attachment 5 of the CA amendment seem to mix impact and process evaluation indicators. As mentioned above, process indicators relate to input, output and purpose levels of a project or program while impact deals with changes in human conditions and are goal and/or EOPs indicators. Nothing this consultant has seen indicates either ATI or AID/W have contemplated structuring the CA and/or the amendment in these common AID terms (or some ATI specific planning matrix/system and corresponding terms). As such, to talk of impact and process indicators without a document or plan clearly establishing what is to be accomplished with AID resources, where, how, when and at what cost, seems inappropriate. Indicators fall out of a good program or project plan. They should not be fabricated separately and "pasted-onto" the end of a CA, they should be clearly laid out in the Project Description.

Most of the indicators listed in the subject document are fine for overall indicators of the successes of foreign aid but attributing CPSG funding to success at reaching the small producer and having an impact on his income, standard of living and way of life, is naive at best. Comments follow on each set of indicators identified in Attachment 5 to the amendment of the CA.

OBJECTIVE 1 - **Benefit large classes of small scale producers**: The indicators on numbers of producers benefitted, the numbers of new and existing enterprises (disaggregated by gender) are process, not impact indicators. As such, they seem okey. Yet without a real proposal and summary list or matrix of achievements, the establishment of indicators such as these represent evidence of an incomplete/partial planning process.

If cost indicators could also be presented it might be more instructive. Such items as cost per beneficiary reached by the program or project might give some insight into the cost effectiveness of the overall program. Indicators showing, for example: a) how much was spent by ATI worldwide and how many beneficiaries were directly reached, b) how many indirect beneficiaries, and c) what are the various cost/benefit and cost per beneficiary ratios.

Likewise, if we are talking about increases in income of farmers or classes of beneficiaries, indicators like: a) how much was spent for every dollar increase in

income, and b) how much was spent for every 1% increase in beneficiary income would seem to make more sense than those indicated in the CA amendment. Indicators would be reported as against total ATI dollars spent and then against total ATI dollars plus instrumental leveraging and counterpart contributions to get a global total for dollars per beneficiary reached and dollars spent for each $1 (or 1%) increase in income.

OBJECTIVE 2 - **Substantially increase the productive activities of small-scale producers and their connections to wider markets**: Once again, attributing impact to the CPSG is moot and the indicators selected in the referenced document seem inappropriate for a CPSG. Furthermore, they are process indicators more appropriate to EOPS than goal achievement. Without a clear goal and purpose statement (or something similar) the indicators are like dangling modifiers - they don't tell much.

But reporting increases in per capita productivity, production and/or incomes against per capita investment in foreign assistance dollars may give some useful point of comparison. Likewise, the cost in taxpayer resources to create each new job might be more interesting than just reporting the numbers of new jobs.

OBJECTIVE 3 - **Transform and increase the productive and value-adding capacity of small-scale producers**: The productive capacity of small-scale producers is a nebulous concept that is not worthy of measuring or tracking as part of the CPSG. What does it mean? One can increase their productive capacity by giving them more land, by making certain transfer payments, providing them with access to credit, and of course, providing them with certain tools and/or equipment to facilitate their work (all are increases in asset base or net worth of the individual). But just inventing a better widget isn't likely to increase anybody's productive capacity, it's what he does with it that counts. So if ATI invents a new gadget, which is being manufactured and sold by commercial firm(s) in the developing countries, the numbers of such gadgets in the hands of farmers (small-scale producers) is an indicator. But more importantly, how many farmers are actually using the new tool and what increase in productivity may be attributed to use of this tool?

Increases in productivity because a farmer is using a new tool can be calculated for before and after scenarios, but it is something that should be part of impact evaluations of individual projects and not part of the CPSG evaluation requirements.

If indicators must be chosen to measure increases (or decreases) in productive and value-adding capacity of small scale producers, better ones might be: a) numbers of producers who are now owners/shareholders of value added processing facilities or operations. Over time measure the increase (or decrease) in numbers; b) amount of through-put (through the producer owned processing facilities) of products by small-scale producers and percent increase since the last report; c) value and percent increase (decrease) of gross sales of the producer owned enterprises; d) indicator(s) of profitability of these enterprises; e) increases in the net worth and stockholder (producer)

equity of the producer owned value added facilities/businesses, and, f) increase (or decrease) in the amount of investment by producers in these value added facilities.

For individual farmers, artisans and/or micro (or small) enterprise owners, measurement of increases in productive capacity would relate to increase in the asset base (or better yet, the net worth) of the individual or enterprise. To measure this without undertaking complicated field surveys to collect mountains of financial data would seem to be impossible and therefore this indicator should be dropped as a CPSG indicator of success.

OBJECTIVE 4 - **Improve and Maintain the Physical Environment While Increasing Income**:

As footnoted in the CA amendment, environmental indicators would seem more appropriate in evaluating impacts of projects in which either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) identified mitigative measures to be taken to protect the environment or safeguard people living in/near project sites. It would seem apparent that any attempt to include environmental indicators as a scoring on performance on implementing the CPSG is inappropriate.

However if leveraging funds provided by AID through the CPSG are used to leverage a larger project financed by an international organization, for which an IEE/EIA would have been required if the project had been funded entirely by AID, is there any responsibility for ATI to follow USG (AID) environmental guidelines? What percentage of a particular project funding originating with AID (or Federal) funds would trigger a full-blown EIA and following all the regulations contained in the various Federal registers, etc?

The individual indicators contained in the CA amendment for Objective 4 are meaningless. It would seem more appropriate to identify individual mitigative measures and/or environmental monitoring indicators once a project is identified that "qualifies" as a project with environmental implications. These indicators would then be reported on a project by project basis and then possibly aggregated into some periodic environmental monitoring report to be submitted as a separate evaluation/lessons learned document.

Interesting comparisons could be made attributing costs and benefits of environmental actions, mitigative measures, etc. and documenting actual experience vs planned (budgeted) items. Environmentalists have succeeded in regulating their field, however, do we really know what the costs and benefits are of these requirements? Furthermore, if ATI is considered by international funding organizations to be an organization with too much environmental baggage, will this affect ATI's ability to obtain non-Federal funding for implementing development projects? How would ATI manage a situation where by using $100,000 in leveraging funds to secure a $10 million project, or by using CPSG funds to prepare the unsolicited proposal to an international organization, an EIA costing $300,000, for example, is mandated by the CPSG project officer (the AID

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Office of Environment) but is not a requirement of the funding agency and/or the host country government? Who would logically pay for the AID mandated EIA?

OBJECTIVE 5 - **Enhance promotion of appropriate technologies by diversifying and increasing funding for ATI and partners and by institutional networking**:

In addition to the indicators listed in the CA amendment, which deal primarily with commitments, other ratios might also be useful indicators: a) actual quarterly or yearly CPSG expenditures vs expenditures from all other sources, b) Quarterly or yearly Federal funds expenditures vs non-Federal expenditures, and c) yearly commitments vs expenditures. It's not just cumulative commitments that count. Actual cash received and project disbursements reported periodically are important as measures of capacity to perform.

Regarding the extensive "Notes to Program Impact Indicators," these would not be necessary if a complete Program Description/proposal had been prepared.

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ANNEX VI

- 1993 WORK PLAN VS 1993 ANNUAL REPORT

ANNEX VI

1993 WORK PLAN vs 1993 ANNUAL REPORT

I. PURPOSE & METHODOLOGY

The purpose of the exercise reflected in the pages that follow is to compare the 1993 ATI Work Plan with ATI's 1993 report to ascertain whether or not ATI is doing what it said it would do. The evaluator carefully studied the approved work plan and noted all (most at least) "deliverables," i.e., statements by ATI regarding expected activities, accomplishments, etc. Following this, the evaluator carefully reviewed the 1993 ATI Annual Report for the same period and attempted to match-up declared accomplishments with the original plan. The results are presented below in column form.

II. FINDINGS, CONCLUSIONS & COMMENTS

A. General Comments & Conclusions

1. Neither the work plan nor the report are documents reflecting a careful planning and reporting process. The plan itself, is general, lacking quantified details or specific targets. For example: Item #6 in the comparison below relates to the Tanzania VOPP project, a cornerstone in the ATI project portfolio. All the plan mentions as accomplishments/targets in 1993 is that ATI will increase project focus on women in 1993, hire a woman field manager and a gender expert to train staff. And in the 1993 Annual Report, it states training and tooling was provided to 6 manufacturers, the project was expanded to all 20 regions and Zanzibar! Similar entries can be found for almost every ATI on-going project. One might ask "Where's the quantifable indicators?" The answer is simple, they are not in the plan nor in the annual report!

2. The plan and the report are difficult to read and compare planned or targeted achievements with actual accomplishments. The documents are far too lengthy...the emphasis seems to be on quantity of paper vs quality of contents.

3. There are no summary charts or matrices in which quantified targets are laid-out for each on-going or planned activity with empty columns to insert achievements, illustrate the variance and comment on the achievement or lack thereof. Even though relatively large spreadsheets might be required to show the entire year, these would provide ATI management and the principal donors with data to evaluate performance - both as an internal management tool as well as a more visual, summarized report for the AID project manager.

4. By accepting funds from AID/W for "general core support" ATI is then required to prepare a detailed proposal to obtain the grant, and, prepare detailed yearly work plans and annual reports covering basically all the organization's activities. Excluded, logically, would be those activities which do not use any AID/W funds.

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However, as AID/W funds are used to cover a portion of the general and administrative expenses, e.g., salary of the president and other non-project specific personnel, this alone would mandate planning and reporting on activities of these persons. The process of general support grants mandates extensive, detailed organization-wide planning and reporting to the general support donor, i.e., AID/W. On the other hand, if ATI's Central Program Support Grant is solicited for specific, discrete activities, planning and reporting might be easier, less time consuming and more meaningful. And ATI could be more easily evaluated...

5. Both the plan and the report give the impression the organization is chasing funding at the expense of quality implementation. "Money bytes" will not finance a project from beginning to end and permit a logical beginning and an end with discrete end of project status. By obtaining "bytes" instead of complete funding, the organization never has to answer for an EOPS.

Following this scenario, the organization would then undertake a normal business plan, i.e., a plan of its business targets and goals, a CPSG plan covering those activities supported by AID/W central funds, and individual project plans and reports, which wouldn't necessarily be included in the CPSG report.

B. Specific Comments & Conclusions

6. Five year business plan: It appears ATI has dropped the five year business plan. The work plan states the new five year 1993 - 1997 plan will be completed and presented at year-end. The annual report doesn't mention the business plan.

7. Classes of small producers: The plan uses the term "herders and natural fiber processors," while the report changes this to "natural fiber processors." This change seems significant yet the report doesn't discuss any rationalization for the change. Textile producers, herders and dairy farmers and ceramicists and metalworking artisans are new categories in which ATI was active in 1993. The impression is that ATI switches major classes like a chameleon changes colors, i.e., adopting major classes of small producers is more a function of where donor money might lie than a conscious effort to assist groups of peoples in the Third World. Why not just state ATI will work with low resource producers in the Third World and drop all the fancy rhetoric and make believe? It would simplify matters, make ATI a more "honest" development broker, yet give the organization the flexibility needed to promote technology for socio-economic development.

8. Plan vs Report: The plan states certain accomplishments will be achieved in a particular section and then in the report no mention is made of what was promised in the plan. In some instances, the plan mentions one or two targets but the report lists entirely different achievements. The plan reflects little or no real commitment to do a good plan and actually implement what is originally designed. Then, the report does not appear to be a straight-forward document...it's like something put together at the last minute just to satisfy a bureaucratic requirement.

Also, the report seems to list an inordinate amount of additional unplanned work, which is an indication of several problems: a) the plan is frivolous; b) the organization is all over the board and is not sticking to its central thrust; or c) it's an organization without a good track record or a good product so it has to take whatever work it can find to "keep the wolf away from the door," i.e., meet the payroll.

Specific examples keyed to the numbers below include: #6 Tanzania - hire women staff is planned but the report makes no mention of whether or not these staff were hired. Neither the plan nor the report give any details of what is expected and what has been accomplished. #8 OILS - Plan says 2 baseline surveys, 2 impact assessments, 1 social impact study and a workshop in Tanzania will be accomplished. The report makes no mention of these targeted activities. Likewise the plan states "on the ground" activities will be initiated but doesn't quantify what, when, where, how much, etc. #40 plans a socio-economic study, test a variety of pumps under field conditions and begin dissemination activities yet the report states $114,000 received from USAID Mali to allow the association to continue dissemination of the pump. No other progress is reported. Numbers 9, 10, 11, 12, 13, 14, 16, 18, 19, 24, 35 & 37 also suffer the same malady.

Unplanned work is reported throughout the report but as it is very difficult to compare the report with the plan so this isn't always apparent. The evaluator has identified this phenomenon wherever it was noted (see #'s 26, 32, 36, 47, & 61 below).

9. Plan is not real...: The plan is not a real work or implementation plan for each on-going project. There are no specific quantified project targets.

10. Report is not real...: The report is not a real project activity achievement report. Little detail or few targets have been listed in the plan, the report likewise is also lacking detail.

11. Plan is more like a dream: In some project activities, the plan seems more like a dream than a realistic effort to plan work and accomplishments. For example # 17. All that was accomplished is to obtain a decision to move forward when the plan expected to treat 1/2 million gallons a day of textile industry effluent.

12. ANSAB: What is the status of ANSAB? The plan was ambiguous and the report more so. Membership grows, but by how many? What were the membership targets? Who was responsible for growing the membership? Should he be fired for not accomplishing his target?

13. Thailand: The work plan gives the impression (#21 below under the plan column) the Thailand project is about ready for the commercialization phase or spinning-off into the real world. However, the report talks about a concept paper and that a project may start in 1994! Is this another example of a project that is suppose to reach spin-off and commercialization stage but because of all the subsidies inherent in the way ATI does business it is impossible to go commercial?

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14. Bio-pesticides & mushroom spawn: The work plan mentions specific targets and categorically state activities would commence (bio-pesticides) in the second half of 1993 and that 200 farmers would participate (#'s 22 & 23 below). In mushrooms, outreach staff were to be trained and the project would reach 500 participants in 1993. Yet in the report...no funding for the one and still awaiting a response for the other! If a project is only a gleam in the project development officer's eye, why talk about it as if it were approved and going to reach specific beneficiaries?

15. Kapok: Once again, the report has nothing to do with the plan...(# 25 below). If the project began in late February 1993, the contracted consultant visited in March 1993, what happened the remainder of the year?

16. Herders and pastoralists: This category was apparently renamed to herders and dairy farmers during 1993. The change is significant but the report doesn't provide any justification or reasoning that may have gone into the change.

17. Pilot project for another year: (# 42 below) A proposal to the World Bank for continual funding of the market gardeners project in Nigeria was planned. Instead, the project received $75,000 from IFAD to continue the pilot project for another year. Outputs were 12 artisans trained who produced 75 pumps. The $64,000 question - why doesn't the Nigeria project "take-off?" What is holding it back? If pumps are produced non-subsidized and if they are a viable technology or product, why don't they take-off and be produced by the thousands, especially in Nigeria where the economic indicators are higher than in Senegal, for example?

18. Nepal - Linares pump: (# 43 below) One entrepreneur was to "scale-up" to commercial production with 500 cultivators, 100 villages purchasing pumps, and 10 service and repair enterprises established... The report talks of a dissemination and commercialization plan (no mention of achieving "scaled-up" status, nor pumps sold, nor villages purchasing pumps), more research and lab tests and adaption of technologies to the Linares pump. So what really happened? The evaluation team visited Nepal and no mention was made of the successful (or unsuccessful, for that matter) "scaling-up" to commercial production of one of ATI's technologies/tools. Is it that the Linares pump project in Nepal closed when the subsidies and project assistance ran-out?

19. Senegal - Diambar stove: (# 44 below) The plan stated dissemination of the stove would take place "from Dakar to secondary towns across Senegal." The report didn't mention whether or not stoves were disseminated across the country but the evaluators were told during their visit to Senegal in July 1994 that sales were confined only to Dakar and surrounding suburbs. The report further asserts 8,300 stoves were sold to date on an "non-subsidized" basis and **THIS IS JUST NOT TRUE**! The evaluators determined a subsidy of 8 to 17 times the selling price of the stoves is what is really happening. Subsidies cover research and development, training, transport, ceramic oven gifted by British, costs of jigs, credit, etc., etc.

20. Guatemala ceramicists: (# 45 below) No activities planned, yet the project was on-going and the report documents some achievements, i.e., 128 producers visited, 120 artisans affiliated, etc.

21. Unplanned other initiatives: The plan made no mention of the venture capital initiatives and activities, yet activities were on-going in at least three countries, i.e., Nepal (EPARD), Thailand and Indonesia.

22. Staff time spent on project development - staff allocations: (#49 below) The plan reported more than 60% of project staff time to be spent on fund raising and reported time breakdown for monitoring and evaluation, new business development and other with estimates for percentages of each to be reimbursed from clients. The report illustrated a different allocation pattern so comparisons are impossible. It further reported ZERO percent allocated to project development and evaluation when in fact estimates as high as 60% had been made at the beginning of the year. No explanation is offered...

23. Information and networking: (#'s 50 - 57) Clear, explicit, detailed and uncomplicated. The plan lays out what is planned and the report gives the accomplishments.

The 1993 Work Plan	Accomplishments
1. Continued refinements in ATI's strategic focus	1. Accomplished.
2. First efforts to plan the global dissemination of two most successful, fully tested and operational client-centered strategic subsector programs operating at the expansion stage (alpaca & oilseed processors in East & Southern Africa).	2. Work done in Nepal (herders) and on regional OILS project in East & Southern Africa.
3. Prepare revised 1993 - 1997 five-year business plan (for the diffusion process) to be presented at year end.	3. Not reported, no evidence of preparation.
4. Complete formal research effort to: a) identify major target groups of producers worldwide; b) develop the corresponding list of globally relevant strategic subsectors. This master list will form the framework within which ATI will develop future programs. 1) Oilseed processors, 2) subsistence farmers, 3) market gardeners, 4) tree crop farmers, 5) herders and natural fiber processors, 6) miners and mineral processors to be examined.	4. a) Done. b) Active in 8 classes: 1) oilseed processors, 2) resource poor farmers (original subsistence farmers), 3) market gardeners, 4) tree crop farmers, 5) natural fiber processors (formerly included herders), 6) textile producers (NEW), 7) herders & dairy farmers (NEW), 8) ceramicists & metalworking artisans (NEW). ATI dropped miners & mineral processors.
DIFFUSION PHASE	
5. Undertake an initial global strategic subsector identification evaluation for oilseed and animal fiber.	5. Nothing reported.
EXPANSION PHASE	
Oil seed processing:	
6. Tanzania - increasing project focus on women in 1993, hire a woman field manager and a gender expert to train staff;	6. Emphasis on CAMARTEC (WID), training & tooling to 6 manufacturers, expand project to all 20 regions + Zanzibar. No report on woman field manager & gender expert.

7. Zimbabwe - launch ZOPP II, expand oilseed processing among small farmers in communal lands, increase geographic scope, focus on women farmers by promoting the CAMARTEC press;	7. 149 presses sold, serviced a number of presses, introduced design improvements, developed jigs & fixtures, newsletter, assisted R.O.M.Association, attend ag. shows, users guide published in Shona/English
8. OILS - initiate "on the ground" implementation of this project, 2 baseline surveys & 2 impact assessments plus 1 social impact study, hold technical workshop in Tanzania, provide guidance on new developments in the ram press.	8. Assistance to 15 countries, T/TA to ZOPP & VOPP, provide farmers access to improved seeds through linkages w/Cargill & Pioneer. Design 1 new program in Uganda, 1 proposal in Malawi. Leveraged $300,000 to $1.7 million. <u>No report on 2 surveys, 2 impact assessments, 1 social impact study, nor workshop in Tanzania</u>.
9. Assist the new Zambia oilseed processing project.	9. ATI <u>not</u> awarded project therefore <u>no</u> assistance to Zambia reported.
10. Prepare 1 concept paper for country-level project in Mozambique.	10. <u>No concept paper reported</u> - is providing T/TA to FHI.
11. 1 proposal for famine mitigation in Zimbabwe to AID/OFDA through sunflower seed distribution and processing.	11. <u>No proposal reported</u>.
12. 1 concept paper to Thrasher Foundation to support oilseed testing by CAMARTEC.	12. <u>No concept paper reported</u>.
13. 1 concept paper to another foundation commercialization of food oil for fuel.	13. <u>No concept paper reported</u>.
14. 3 concept papers to UNIFEM/Senegal, UNDP/The Gambia & USAID/The Gambia focusing on sesame/ram pressing.	14. <u>No concept papers reported</u>. **HOWEVER**: Funding obtained for <u>Uganda</u> project from DANIDA & USAID; proposal under preparation in <u>Malawi</u>; concept papers to IM&D to expand VOPP & to UNDP & SADC for OILS; exploratory mission to Ethiopia.

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Herders & Natural Fiber Processors:

15. Bolivia - Design and construction of processing plant, Fiber laboratory in El Alto, Credit - $300,000 to 300 herders in 80 units, Complete 5 irrigation projects.

15. Feasibility study completed by Italian experts finds plant economically & financially viable & environmentally sound (after over 1 year under implementation). Continued technology transfer: fencing, pasture mgmt., irrigation, mechanical shearing, breeding, culling, record keeping. 150 alpacas imported from Peru (90 to farmers, remainder ?). Credit - $approved $293,492 to 172 families, disbursed - $176,582. Robbery/murder.

16. World - Explore potential for new project in Nepal, explore potential with IFAD for regional Andean program in 5 countries.

16. Nepal: 3 person team conducted brief reconnaissance to assess potential for program similar to Bolivia & Guatemala. No follow-up reported. No report on Andean countries.

DESIGN PHASE

Village-Level Textile Producers:

17. India - small-scale demonstration project to treat 0.5 million/gal/day of textile industry effluent in Jodhpur, Rajasthan; continue TA.

17. Decision to move forward with construction taken, committee created, site selected, tax notification sent out to textile producers, bids for consultants received.

18. New business development - Obtain funding for expanded in-plant pollution prevention for Rajasthan textile industry. Participate with DAI on AID RFP.

18. WEC recommends training in U.S. to study in-plant treatment process. No mention of whether or not funding was obtained nor of DAI/ATI RFP.

Resource Poor Farmers:

19. Regional: ANSAB: finalize establishment, appoint board of directors, solidify funding base, increase membership, publish 4

19. Began kapok tissue culture, continued potato TC. 2 issues of newsletter, membership grows, funding for rhizobium imminent. NO MENTION of

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newsletters, sponsor 1 technology workshop.	workshop, legal formation, board of directors, etc.
20. Nepal - train 25 villagers (12 women) in sand rooting, assist them to establish themselves as village potato seed suppliers, extend technology to 500 local farmers, begin planning for widespread production of planting material and sand rooting to reach 2,500 cultivators in 1994.	20. 2nd round of field trials confirm 20% yield increases without pesticides, farmers harvest own seed average 124 seeds/plant. Survey of storage quality/palatability of 42.3 variety, GON asks ATI to work closely with it. 104 farmers trained (33 women). No mention of 500 farmers nor planning to reach 2,500 growers.
21. Thailand - complete a final season of application (?), draw-up a business plan for commercialization of blue-green algae involving joint venture between farmers, a NGO, the research institute and a venture capital company.	21. Concept paper submitted to MOA. Discussed funding possibilities w/Nat'l Center for Genetic Engineering & Biotech. Negotiations continue. Project may start in 1994.
New business development/resource poor farmers/Asia -	
22. Bio-pesticides pre-commercial activities (ODA), bio-pesticides for legumes in Bangladesh, India and Nepal - commence project with a feasibility study, begin implementation in 2nd half, 200 farmers participate.	22. $500,000 proposal submitted to ODA in 1992 resubmitted to NRI. Budget cuts. No funding.
23. Mushroom spawn production, cultivation in Bangladesh, India and Nepal (UNESCAP): Follow-up w/UNESCAP/Bangkok proposal for $421,000 project, train outreach staff and 500 participants;	23. Proposal repackaged to meet their guidelines. Awaiting response.
24. Mushroom enterprise activities in Nepal (FAO/Nepal): Submit proposal to FAO/Nepal.	24 No report of activities.
25. Kapok tissue culture - Indonesia: Formal establishment of ANSAB, formalize Ford Foundation grant for Phase I feasibility study, tissue culture	25 Funded by Rockefeller Foundation, contract signed w/TC expert Univ. of Florida. 2 yr. program to develop micropropagation procedures for kapok

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with 10 elite kapok trees to determine feasibility of micro-propagation, complete rural assessment of small farmers growing kapok trees.	began in late Feb. Univ. Fla. consultant visited in March. <u>No other report of activities or accomplishments</u>.
26. Venture capital for low input farming/Nepal: Prepare concept paper for ATI/W's Program Concept and Design Committee (PCDC).	26. Given less emphasis until results from EPARD project are available. Draft proposal to USAID/N under preparation. **<u>ADDITIONAL UNPLANNED WORK REPORTED</u>**: i) Rhizobium technology application/India, Philippines, Sri Lanka: In response to IDRC interest, concept papers submitted on rhizobium & mushroom spawn. IDRC gave <u>preliminary approval</u> for $190,000 "technology applications & commercialization in India, Sri Lanka & Philippines. Final approval expected in 94. ii) Biodiversity Conservation Network approved $49,000 planning grant to prepare imp. proposal. iii) Potato TC in North Sumatra - 1 technician sent to CIP (Lembang) for training, MOU for training signed w/Nat'l Herbarium & Botanical Labs in Nepal for add'l training.
<u>Tree Crop Farmers</u>:	
27. Cashew farmers/processors, Honduras - complete plant building, move processing plant equipment to Choluteca and install, initiate formal production trials, one mid-term evaluation.	27. Plant became operational, added motorized centrifuges, 10 more manual crackers & nursery w/70,000 seedlings. Manual splitting machines causing bottleneck. Plant not viable. Mid-term evaluation postponed to 1994.
28. Coconut processors, Philippines - complete Royal Tropical Institute (KIT) -sponsored project, train 70 workshop participants, establish first enterprises under USAID PVO Co-financing project. New business development -	28. 3 technology demos. 2 groups moved to prepare business plans, one group to form marketing coop. 225 farmers participated so far. 1 workshop w/over 100 part. 1 coop & 1 indiv. set-up small scale oil mills. Technical paper(s) published.

29. Coffee processors/Central America - secure funding to start Phase I consisting of validation and demonstration of technologies involved, training of manufacturers and potential users of technologies, project proposals for IDB & CABEI and USAID. Prepare proposals for financial institutions for an eventual Phase II and submit to IDB, CABEI, UNDP/PEC and IFAD.	29. $1.3 million approved for Phase I in El Salvador. Contracts with partners (2 coop. organizations) under negotiation.
30. Palm oil processors/Nigeria - draft concept paper together with Nigerian Institute for Oil Palm Research (NIFOR) for field testing Caltech expellers, and present a slightly modified version to IFAD's Nigerian Middle Belt States Project. Prepare proposals for World Bank, FAO and IFAD for dissemination of palm oil extraction technologies in Nigeria.	30. Concept papers prepared. No interest in more detailed proposal.
31. Forest-based producers/India and Nepal - prepare project proposals for funding of NTFP project in Nepal.	31. Feasibility studies completed. Ford Foundation interested.
32. Coconut processors/Asia - complete concept paper on how to expand and disseminate coconut processor strategy on a regional basis; prepare two project proposals.	32. No interest. **UNPLANNED**: i) $116,000 proposal to Ford Foundation for coconut coir and Non-timber Forest Products (rattan & resins). ii) Forest based products/Guatemala - collaboration w/Conservation Int'l, $692,800 proposal submitted to IDB.
Herders & Pastoralists:	**RENAMED - Herders & Dairy Farmers**
33. No operational activities in 1993.	33. No activities reported.
New business development -	

34. Develop proposals for full project funding of the India project (1992) and begin implementation.

34. Letter of intent signed w/2 private US power companies for $5.2 million program. Start 1994.

35. 2 pre-feasibility assessments, one in Eastern Europe and one in Central America.

35. No reported activities.

36. Herders and farmers/global - background research and proposal preparation on recycling animal and agricultural wastes that also reduce methane emissions.

36. Project assessment and draft report in Brazil, draft report Tanzania, assessment in Bangladesh.

UNPLANNED: Continued work on feed supplement program in Tanzania.

Market (Fruit and Vegetable) Gardeners:

37. Senegal: Market gardeners - extension of USAID technology transfer project until 12/31/93; training local organizations in methodologies developed by organizing one two-week workshop; complete a sub-sector assessment; project manager is a resource to other projects; post-harvest technologies are transferred to other projects; introduce other water lifting devices, low cost wells, post-harvest processing technologies;

New business development -

37. 220 treadle pumps sold (520 cumulative total), $70,000 in new revenues to artisans, network of pump marketing agents sell on commission. Manufacture of pumps take place on an non-subsidized, commercially sustainable basis. Pump user increases annual gross income by $1,400. Field trials on neem-tree pesticides, tests on geo-textiles for seed beds.

No mention of: two week workshop, sub-sector assessment, post harvest technologies, other water lifting devices, low-cost wells or post-harvest processing technologies.

38. Proposal to Senegal USAID to extend Technology Transfer project until 2/31/93.

38. Project extended until September 1994.

39. Implement new PVO Co-financing project.

39. Mission delay in acting on ATI proposal.

40. Market gardeners/Mali will begin based on a proposal submitted in 1992, socio-economic study, test a variety of pumps under field conditions, begin dissemination activities.

40. $144,000 received from USAID/Mali to allow Assn. for Study of AT to continue dissemination of pump. No other progress reported.

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41. Market gardeners/Niger proposal to World Bank will start.

41. Project on hold until 1994.

42. Market gardeners/Nigeria proposal to World Bank and Federal Agricultural Coordinating Unit (FACU).

42. $75,000 received from IFAD received to continue pilot project another year. Train 12 artisans, 75 pumps produced.

43. Market gardeners/Nepal - assist one entrepreneur scale-up to commercial production; 500 cultivators & 100 villages will purchase pumps; 10 service and repair enterprises to be established; water filtration and purification technologies (silver ionization treatment technology) implemented and compared; begin research on component parts of the pump.

43. Drafted dissemination & commercialization plan, research & lab tests on "metal ion treatment" of surface water using silver & copper - tests positive, contacts established w/mfg & distributor of metal electrodes & w/public health organization for further testing. Work continues on adaption of technology to Linares pump.

Ceramicists & Metalworking Partisans:

44. Senegal: Stove artisans and homemakers - expand dissemination of Diambar stove from Dakar to secondary towns across Senegal.

44. 24 metal working artisans & 2 producers of ceramic linings were active. 8,300 stoves sold on non-subsidized basis, 15 women potters trained to produce liners, 100+ stove demonstrations, many groups appoint a member to sell stoves, some savings plans established to help purchase stoves, private traders more active in stocking & marketing stoves. Stove price fell from $13.80 to $8.60 & another $1.50 to be shaved as women potters gear-up.

45. Guatemala/Ceramicists - although the project is apparently on-going in 1993, no activities were reportedly planned.

45. Much progress made toward equipping Ceramic Support Center - gas fired kilns, credit program. 128 producers visited & services explained. By 6/30 120 artisans affiliated & 15 involved w/new product line (product) for export to US. 40 artisans trained, 41 artisans borrowed $4,705. FUNDAP project mgr. visits Wash.

New business development -

46. None.

46. None reported.

The Small Producer Partnership Initiative in Central America -

47. CASPI's preliminary document. 1 Position paper. • Consultation meeting and work plan. • CASPI's final proposal. * Fund raising strategy. • Implementation.

47. Meeting held in Antigua launching ORAPECA (Spanish acronym). No other activities mentioned.

NOT PLANNED - Reported under Other Initiatives - New Business Development: Activities deal w/VENTURE CAPITAL. a) Extended EPARD project in Nepal until 4/94. UNDP granted an additional $25,000 for continued TA. 3 investments made (one in manured-powered battery w/50% subsidy provided by GON).
b) Thailand - rural small scale industries: pilot credit-venture capital project. TA component operative in March w/UNIFEM funding. LOA signed re: seed capital, policy advisory group met once, 2 loans made to women's groups.
c) Indonesia - GOI changed mgmt of P.T.Bahana Usaha. Venture Capital for Appropriate Technology (VCAT) financed 6 farmer groups w/150 farmers. ATI confirmed its commitment to VCAT.
UNPLANNED SPECIAL SERVICES: Participated in RFP for world-wide AID project, worked with IBRD in Malawi on Ag. diversification project preparation, assisted IFAD prepare rural enterprise project proposal in Ghana, prepared concept papers for Environmental Enterprises. Staff member to UNEP for expert consultation on EIA.

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Leveraging and Staff Allocations:

48. $7.5 million in total commitments from other donors by end of 1993 (Table 2 documents $14.4 million in direct & $5.0 million in instrumental leveraging).

48. $4.1 in direct commitments & $4.0 in instrumental leveraging.

49. "More than 60% of all project staff time will be occupied in efforts to identify additional financial resources in 1993 as well as a central focus of senior management as well." Also - planned:

	% of time	% reimbursed
M & E	33%	63%
N B dev.	42%	41%
Other	25%	0%

M&E = monitoring & evaluation
NB dev = new business develop.
Other = misc. unallocated.

49. Not reported. Tables allocate time but differently than planned in 1993 Work Plan.

Reported:

Tech. commercialization		36%
Commodity sector dev.		8%
Financial mechanisms		4%
Environ. fragile lands	20%	
Proj. dev. & evaluation	0%	
Closing ATI II		1%
Other prog. support		4%
Information services		1%
Gen. support & admin.	1%	
Other donor programs		14%
Other (leave, holidays, admin.)		13%

Information and Networking:

50. Publish the 1991-1992 Biennial Report.

50. Published 1992 Annual Report - distributed 4,000 copies.

51. A promotional small producers video.

51. In process. Overseas filming almost completed.

52. Catalyst bulletins on animal fiber and other expansion phase subsector strategies not yet reported.

52. Not completed.

53. Print ATI pocket folders.

53. Done. In wide distribution.

54. Collaborate on technology information sheets.

54. 4 "sheets" produced.

55. Translate the newly produced Capability Statement into Spanish, French, and other languages.

55. Done. Into French & Spanish.

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56. Produce weekly news items for AID.	56. Changed into "Talking Points", 3 issues distributed to over 250 persons.
57. Organize a Congressional briefing in Spring of 1993.	57. One on one briefings held as large number of new congress persons.
Program Evaluations:	
58. 3 ATI II evaluations.	58. 2 draft reports received (Costa Rica & Guatemala).
59. 3 ATI III evaluations.	59. 2 reports (Honduras & Senegal mid-terms), 2 mid-terms postponed (Bolivia & Zimbabwe).
60. Publish environmental-natural resources strategy paper.	60. Hyman publishes 6 articles in a variety of periodicals and material for 1 chapter in book environmental issues.
61. Review promising subsectors to assess strategic potential - oilseed processors, subsistence farmers, market gardeners, tree crop farmers, herders and natural fiber processors, and miners and mineral processors.	61. Nothing reported. **NOT PLANNED**: a) revised ATI II final project reports & text of final report, b) evaluation framework for Philippine coconut processors project, c) evaluation frameworks for 4 projects, d) response to ATI mid-term evaluation report, e) analytical framework for targeting strategic subsectors, f) computer drawn thematic maps of global production of wool, sunflower seed & coffee, g) 4 reports to guide global diffusion efforts, h) maps & statistical analyses of farming systems for oilseeds in Uganda & Ghana, i) proposal for study of cassava processing & export potential in Ghana, j) prepare amendment of coop agreement, k) market study of edible oil in Malawi, and l) financial analysis of ram press in Uganda.
Budget for 1993:	
62. $3.150 million (assumes restoration of $150,000 cut from the 1991 budget)	62 Audited financial statements report $3.4 million (ATI-III $ 3.2 + ATI-III Amendment #9 $0.257 million).

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ANNEX VII

- **RECOMMENDATION IN THE MID-TERM EVALUATION/ATI RESPONSE**

MID-TERM EVALUATION - Recommendations

I. General

1.	Cooperative Agreement needs to be totally rewritten to:	**Being done** -- USAID contract office will be issuing Amendment No. 12
	a. define terms;	**Done** -- See Amendment No. 12, Glossary of terms
	b. reconcile inconsistencies in language throughout the CA, including between the project description and the various annexes;	**Done** -- See Amendment No. 12
	c. recognize the legitimacy of current categories of leveraging funds from other donors and substitute realistic funding targets in these categories, and clearly state that AT's major goals are to increase cost recovery and proportionally reduce dependence upon USAID central funding;	**Done** -- While the CA does not initiate new methods for facilitating sustainability, it continues ATI's emphasis on diversifying program funding. Targets for direct funding and instrumental leveraging have been set.
	d. establish new and realistic (and more relevant) objectives and indicators;	**Done** -- Amendment No. 12 recognizes the legitimacy of instrumental leveraging and sets realistic objectives and indicators
	e. initiate new methods for facilitating sustainability & diversified funding	**Being done** -- While the CA does not initiate new methods for facilitating sustainability, it continues ATI's emphasis on diversifying program funding.
2.	USAID should accept ATI as a complement to USAID rather that as an agent of USAID's changing agenda (this implies ATI be funded off the top of USAID's budget rather than from the budget of one bureau with its own priorities & valuative criteria).	**Pertains to USAID** -- ATI agrees with the recommendation that we receive funding off the top of the USAID budget, but USAID has not yet agreed to this We believe that our program complements USAID's current priorities well.

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3.	ATI should be viewed and utilized as an opportunity for flexible & innovative activities and it should continue to evolve so as to be "enterprise oriented" and "opportunity responsive." They should become more flexible and more entrepreneurial.	**In part pertains to USAID** -- [ATI's flexibility is still limited by the nature of a cooperative agreement as opposed to a grant and USAID's standard provisions.] **In part pertains to ATI** -- Within these limits and the need to continually improve program focus, ATI always designs new programs in response to new opportunities identified by us or our project partners.
4.	The relationship between USAID and ATI should be a collaborative one between two organizations and measuring success by the number of buy-ins is inappropriate.	**Agree** -- ATI agrees that the relationship with USAID should be collaborative and that the success of our program cannot simply be measured by counting USAID buy-ins. Nonetheless, during the life of this CA, out of a total of $24.8 million in commitments from all donors, ATI has secured $3.2 million in commitments from USAID programs for our program activities.
5.	ATI should collaborate with other development organizations to expand policy & environmental analysis in project development (this may open new revenue sources).	**Being done** -- ATI is collaborating with a variety of other organizations to expand environmental analysis in project development; for example, Conservation International, The Rockefeller Foundation, and the USAID Biodiversity Conservation Network.
6.	ATI should consider narrowing its focus among subsectors, within a program or perhaps geographically.	**Disagree** --At present, ATI is working in nine subsectors and we have substantially narrowed our focus from approximately 50 different commodities that were part of our program under the previous Cooperative Agreement (ATI-II). Two of the nine represent mature program areas that are ready for the expansion and diffusion stages. The remaining seven are in the design stage and our experience with them will determine which of them will progress to expansion and diffusion. ATI needs to maintain a pipeline of new activities that may become a bigger part of future activities.
7.	ATI should be "anchored" someplace else besides USAID or it should have semi-autonomous status for its operations.	**Agree** -- ATI would like to have a greater autonomy in its operations and will be seeking other institutional arrangements following the completion of the current CA.
8.	The USAID oversight role can move to a more detached phase and not impede the achievement of ATI objectives.	**Agree** -- ATI agrees with the recommendation that USAID oversight should move to a more detached phase.

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9.	Resolution of language problems will help resolve misunderstandings between ATI & USAID. A glossary of common terms might help (a caveat is also mentioned: "..any attempt to produce common definitions might sharpen disagreements..."). A clear definition of sustainability should be included in the amended CA.	**Done** -- A glossary of terms is included in the pending CA Amendment. The 1992 Evaluation contained contradictory interpretations of sustainability and this issue may still be a matter of contention. It did, however, note that self-sufficiency is inappropriate because of the nature of ATI's operations.
10.	ATI should and could (with expanded funding) do more to identify and disseminate the policy implications of its development work.	**Desirable** -- In identifying and planning projects for particular countries, ATI considers how macro- and sectoral-policies affect the potential for project success. In some cases where a specific sectoral policy is a major constraint, ATI may work with producer associations or local NGOs to try to change the policy. However, it is unrealistic to expect that a small, foreign PVO can change basic government macro-policies -- an area where large institutions such as USAID, the World Bank, and the IMF with a much greater ability to offer financial incentives to governments have had mixed success. Under the previous CA, ATI commissioned a series of case studies of policy impacts and organized regional conferences. At the time, however, USAID discouraged ATI from pursuing further work in the policy area.
11.	A senior (high) USAID official should be appointed to the Board of Directors of ATI.	**Disagree** -- (a) ATI routinely invites USAID officials to participate in its Board of Trustee meetings in a nonvoting capacity and welcomes their continuing input. However, ATI feels that a formal USAID role on the Board would be inappropriate in a private voluntary organization. (b) This recommendation also runs counter to other recommendations of the 1992 evaluation that USAID loosen its control over ATI.

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12.	ATI should have a more working or entrepreneurial board and less oriented toward a traditional "appropriate technology" agenda.	**Being done** -- ATI has made important additions to its Board and Council since mid-1992. New board members include Thomas Downey, an influential former Congressman now in the private sector and Sandra Kabir and Emil Salim, internationally recognized figures in official and NGO circles from Bangladesh and Indonesia respectively. New Council members, who may be nominated to join the Board in the future, include leading private sector and government figures from Japan, Tanzania and the USA: Paul Bomani, Peggy Dulany, Edward Hoff, Saburo Kawai, Claudine Schneider, Motoo Shiina, and Saburo Yuzawa.
13.	ATI should work towards broader coordination and systematic collaborative work with both government and non-government agencies at national and regional levels to institutionalize this impact.	**More work needed** -- While ATI has been highly successful in securing funding from donors, as well as in expanding our network of ATI's partners, more work needs to be done in systematizing our collaborative work with local and regional institutions.
14.	Current and future ATI activities need to be assessed and designed with long-range time frames in mind.	**Desirable** -- This is being done within the constraints we face. ATI's ability to design activities with long-range time frames in mind is constrained by the 5-year length of CA core funding and the continuing battles to prevent the abrogation of USAID's contractual commitments for political reasons. It is also constrained by the duration of donor allocations for programs, which are typically only made for 1-5 years. Nevertheless, ATI tries to keep long-range time frames in mind in its model for program development that encompasses the exploratory, design, expansion, and diffusion phases. A mechanism for providing reliable funding over a longer period of time would be needed to carry this out.

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II. Management

1.	Move to a management system to better support direction organization is heading by integrating reporting, monitoring, & evaluation.	**Being done** -- A new Impact Monitoring System (IMS) has been developed and data gathered and analyzed for 1993. More work is needed in operationalizing the IMS. This work is underway and will be completed this year.
2.	ATI's monitoring and evaluation systems should be revised and integrated with planning & field project supervision and ATI should bring-in short-term technical assistance to help develop a simple project level monitoring and tracking system. ATI should set-up simple indicators to track the kinds and magnitude of impact in key areas.	**Being done** -- The monitoring system is in the process of being revised. ATI and USAID have agreed on a set of internal indicators that are a subset of our larger impact monitoring system. Drafts of the 1993 results have been provided to USAID.
3.	ATI should make further improvements in identifying and disseminating lessons learned.	**Desirable** -- ATI devotes considerable resources to identifying and disseminating lessons learned and will continue to do so, subject to the constraint of very limited staff resources for evaluation. For example, a draft report of lessons learned from ATI II projects has been prepared. The way that ATI has reoriented its programs demonstrates that it is a learning organization. Since this is the essence of ATI's long-term goal of diffusion of productive programs it is being actively pursued at this time.
4.	A project management/information budget system as well as an accurate and meaningful timekeeping system must be in place. The current timekeeping system should be simplified and made relevant as an important management tool.	**Done** -- These systems are in place. Although some improvements could be made to our timekeeping system, we have decided to defer those until the completion of this CA.
5.	ATI may wish to consider capturing the direct and indirect costs of managing projects in order to show how much of its budget goes for overseas programs versus stateside activities.	**Done** -- Since the '92 mid-term review we have made substantial improvement to our budgeting of field activities, including charging consistently overhead to all donor and direct charging project management costs.

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6.	A separate report for each cooperative agreement would be most beneficial as opposed to lumping all three CAs in one report.	**Not relevant** -- ATI does not have two concurrent CAs any longer. While we could easily produce separate financial reports, we do not think it is efficient to produce separate progress report for activities that relate to the use of core funding.
7.	The semi-annual progress reports should only cover the CA for ATI-III and be more systematically organized. These report should include specific reporting requirements regarding comparisons of specific goals and objectives and explanations why they are not met and other information such as the status of administrative cost recoveries.	**Done** - - Amendment No. 12 will make the revised progress report and annual work plan formats official.
8.	ATI should develop better feedback systems between home office and the field through visitations, joint learning/training, and information exchange, particularly as relates to the new subsectoral approach to technology development.	**More work needed** (see item 9 below) -- Due to our rapid growth in volume of program activities and methodological development in the last three years, ATI's home office needs to improve communication and training with field offices and partners on the subsectoral approach and other aspects of our program.
9.	Regular informal working seminars or bag lunches to discuss in-progress work is another way that ATI can increase the impact of lessons learned, while also encouraging an inclusive approach to ongoing work.	**Being done** -- It is being accomplished through program staff meetings, the learning team concept, the PCDC project review process and the strategy development sessions. ATI agrees that more needs to be done in sharing project evaluation results.
10.	Periodic seminars should also be organized in field projects, as a way to bring persons from different organizations together around a common topic.	**Desirable** -- But subject to funding availability. ATI has done this with the ANSAB Network and two regional conferences on oilseed processing.
11.	Staff should be trained in systems-based rapid diagnostics techniques for conducting baseline and ongoing monitoring of minimal indicators.	**More work needed** -- More will be done during '94 during the formal operationalization phase of the Impact Monitoring System

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12.	ATI should establish more collaborative relationships and partnerships with other organizations in the development community for project funding, dissemination, replication, information sharing and joint learning.	**Being done** -- (See Partnership Learning Team reports -- available upon request)
13.	ATI should establish, or become part of and promote, a worldwide electronic network for AT information sharing, e-mail and other communications.	**Not relevant** -- ATI is part of ECONET and it has access to E-Mail. However, ATI does not see itself playing a major role in AT information sharing.
14.	Thoroughgoing performance evaluations should be carried out by independent investigators approximately every five years.	**Pertains to USAID** -- being done (USAID related). Evaluations have taken place in 1982, 1986, 1992 and 1994.
15.	ATI should adopt modes of operation that enact the learning organization vision, and make sure that everyone involved feels part of its implementation.	**In progress** -- ATI established three learning teams at the beginning of 1994 to address this issue. These include the Partnership Learning Team, the Commercialization Learning Team and the Private Sector Learning Team. Most of the staff are involved in one of these learning teams.
16.	ATI should create a project information system which not only monitors and evaluates but also serves as a management information system.	**In progress** -- See IMS report for 1993. More will be done as part of the operationalizing of the IMS.
17.	ATI should modify program and project evaluations to be more analytical and meaningful to the extent that systematic use is made of both quantitative and qualitative types of data.	**Being done** -- Single project evaluations are already analytical and incorporate valuable data. However, as the ATI approach evolves, more needs to be done with respect to program area evaluations.

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III. Financing, Budgeting and Self Sufficiency

1.	Continuing USAID assistance at some level, in some form will be required.	**Pertains to USAID** -- ATI agrees
2.	Additional increased funding to ATI should be provided in two forms:	**Pertains to USAID**
	a. 50% in the form of capital funds to enable ATI to assume the role of investor (funds which are only replenishable through returns on investments);	Merits in depth discussion; neither of these two options are viable without a substantial flow of core funding and access to leveraging funds. Both alternatives may prove too difficult to manage and monitor and may require additional involvement from USAID, contradicting other suggestions in the evaluation report. In the second case USAID budgeting may be more unpredictable.
	b. 50% on a competitive matching basis, so that the Federal Government would provide additional funding on a competitive basis under the condition that 50% of funds to be provided be matched from non-USAID sources to fulfill the goals stated in AT's mission statement.	
3.	Core funding should be provided for up to two years after the end of the current CA, followed by gradual exposure of increasing fractions of this funding to competitive solicitations if additional funds are not available.	**Disagree** -- This is inconsistent with other findings and recommendations of the evaluation about the necessity for continued core funding and stability that allows for long-term planning.
4.	Improve budgeting procedures.	**Not relevant** -- the report provides no specifics on this point. This issue has never been raised by either USAID or Price Waterhouse.
5.	Improve reporting and monitoring of time allocations of all staff members to better understand (record) and communicate costs of operations.	**Desirable** -- At the end of this CA, ATI plans to revise the timesheets which will better record the cost of operations. Until now, the current system has been sufficient.
6.	Ongoing and greatly increased Government funding is necessary.	**Pertains to USAID** -- ATI agrees.

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	a. Should be less dependent on annual funding.	**Disagree** -- In real terms, ATI funding has decreased substantially due to inflation and budget cuts. In its first three years of operation, the annual amount of funding received by ATI would be equivalent today to $16.2 million per year.
	b. Allowing ATI to be an "investor" capable of earning a return on some activities.	**Desirable** -- But, turning ATI into an investor that seeks to earn surpluses faces considerable difficulties with USAID rules and general regulations for use of federal funds. Moreover, the IRS is closely scrutinizing profit-making activities of not-for-profit organizations. ATI would also be subject to the risk that small enterprises will not repay their loans.
	c. Allow ATI to open its own credit facility in support of local partners & to recover some capital needs.	**Desirable** -- Once the DEVCAP initiative sponsored by the Calvert Funds is operationalized, ATI will be able to experiment with this new role.
7.	ATI should diversify its sources of funding and be less dependent upon USAID and the Congress when its current core CA terminates.	**Disagree** -- ATI has successfully diversified its program funding from sources outside USAID/G/EG/EID as required by the Cooperative Agreement (see Annex I) and is recovering indirect costs to the extent possible. However, continued core funding from the U.S. Government (whether channeled through USAID or not) is needed as was recognized in other findings and recommendations of this evaluation.
8.	ATI should continue to be reimbursed on a "direct cost" basis and not adopt an overhead rate structure.	Typically, in the past, certain long term projects, when created, did not provide recovery for overhead costs, this created a condition where the Cooperative Agreement absorbed these excess indirect costs. ATI has taken steps to rectify this situation and requires all new projects to bear their fair share of indirect cost recovery. However, it will require some time for the previously mentioned long term agreements to phase out. However, ATI will continue to assign the unabsorbed overhead to the core contract on a diminishing scale over the next two years.

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9.	As relates to financial indicators, clarity and agreement on targets for direct financing, instrumental leveraging, indirect financing, and sustainability should be reached and included in the CA.	**Done** -- In the CA Amendment, targets have been set for direct and instrumental leveraging. Indirect financing is not a term used in the Amendment.
10.	ATI should develop an operating budget covering the last two years of the CA. This budget should include USAID funds, funds received from administrative cost recovery and other sources of funds. ATI should also develop a two year planning budget, with estimated sources of income, for the two years after the current CA terminates.	It is difficult to implement a two-year budget under the current funding arrangement with USAID. Information on funding information is not available until the year of the operations. This makes the current process a series of alternative program efforts pending funds availability and receipt as opposed to an actual budget. If ATI had assurances of funding for the budget period(s) this recommendation would be practical to implement. All additional projects have self contained budgets integrated into the financial process and monitored individuall and in total.
11.	ATI should develop an unrestricted fund balance so it can use non-Federal funds to conduct fund raising efforts.	**Being Done** -- Although ATI is accumulating some unrestricted funds, it is not likely to occur at any level that will permit us to finance fundraising efforts. It should be noted that only management fees can be used for this purpose, not indirect costs recovered.
12.	ATI and USAID should explore ways in which funds can be recouped from future sub-grants so that the sub-grant leveraging fund will at least partially replenish itself.	**Disagree** - The purpose of the Leveraging Grants is to allow ATI to make grants and conduct feasibility studies. The legislation does not stipulate that the funds be recovered as loans or equity investments. Regulations in less developed countries make it impossible for international NGOs to repatriate funds or convert local currencies back into U.S. dollars.
13.	The U.S. Congress should earmark funds for ATI so that USAID will be sure to take ATI's funding requirements off the top of the Agency's budget prior to the Directorate for Financial Administration allocating funds to the various bureaus, rather than making ATI a line item in R&D/EID's budget.	**Pertains to U.S. Congress** - ATI strongly supports the recommendation for Congressional funding of ATI prior to allocation of the USAID budget to the various bureaus rather than as a line item in the budget of the G/EG/EID office, but this has not happened yet.

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14.	The current CA should remain as a CA, however, future assistance to ATI should be as a grant, providing agreed upon programmatic purposes, and not a cooperative agreement, given the projected improvement by ATI in a diversifying its funding base.	**Pertains to USAID** -- ATI supports the recommendation that future core funding be structured as a grant rather than a cooperative agreement. Since the current CA expires at the end of September 1994, negotiations on the form and level of new assistance will need to begin soon.

IV. Field Offices

1.	Strengthening field/central office integration and mutual learning.	**More Work Needed** -- Integration remains at the project level. More work needs to be done to expand scope of collaboration to development of new programs within the framework of ATI's approach.
2.	Increasing field presence as resources permit.	**Being Done** -- ATI has field offices in Bolivia, the Philippines, Senegal, Tanzania and Uganda and is in the process of establishing an office in India. Additional offices are contingent upon funding availability.
3.	ATI needs to be able to improve two-way communications with its field operations.	**More work needed** -- Our high growth rate and change in strategies has resulted in some communication gaps with field operations personnel as related to new program design characteristics.
4.	ATI should continue to manage its field operations flexibly.	**Being done** -- ATI will continue to manage its field operations flexibly.

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V. PARTNERS

1.	ATI should focus on capacity building with local partners to bring them along on sub-sector approach and more resources should be provided for this purpose.	**More work needed** -- While the primary emphasis for ATI is on achieving program impacts with partner organizations rather than institution building, ATI provides technical and managerial assistance in many cases. ATI has provided training to project partners (for example, in the Nepal EPARD Project), but our capacity building is primarily accomplished through a "learning by doing" approach.
2.	An articulated goal of ATI should be to have an impact on local, national, regional and international institutions which are involved in subsectoral and small enterprise R&D activities.	In 1994, ATI is supporting the preparation of an ambitious number of subsector analyses in collaboration with project partners and expects that these studies will have an impact on the thinking and operation of these organizations.
3.	Institutional linkages between ATI and other institutions with complementary expertise within a given subsector need to be approached systematically and lessons learned from this activity (?) shared by ATI amongst staff and other donor organizations. ATI needs to more clearly articulate its strategy relating to these institutional linkages.	**Being done** -- Within the constraints of available funding, ATI has developed linkages with a large number of institutions with complementary expertise, including research institutes and NGOs, and will continue to do so. One recent new collaboration is with Tufts University School of Veterinary Medicine for a planned dairy cattle producer project in Bangladesh.
4.	ATI should develop NGO-research institute linkages and should become an active participant at national and international levels by contacting these institutes to begin collaboration where it has not already done so.	ATI has collaborated with international research centers such as Niftal, IITA, and IRRI and has unsuccessfully tried to work with CIP. ATI has established an internal learning team that is focusing on the nature of partnerships with other institutions.
5.	Benchmarks need to be set-up in each project with regard to the kinds and scope of ATI financial and technical assistance to local institutions, and time frames for eventual pull-out by ATI.	**Being done** -- Each project plan provides benchmarks for the kinds and scope of ATI financial and technical assistance and time frames for eventual pull-out by ATI.

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6.	ATI should also look to the potential of strategic alliances with large corporations that might be supportive of small scale enterprises, as it has with Cargill in Tanzania and with Victorias Milling Company in Indonesia.	**More work needed** – ATI is currently considering ways of working with large private corporations such as Cargill in Tanzania and Pioneer Seed Co. in Zimbabwe. We have also established a special learning team that is looking into this topic.
7.	ATI should be doing much more to forge mutually productive relationships with governments.	**Desirable – (but with reservations)** – In some cases, ATI works with government agencies and parastatals. Examples include research and extension agencies such as CAMARTEC, SIDO, and the National Dairy Development Board of India. The past experience with LDC government agencies in development projects supported by ATI and other funders argues for caution.

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VI. Program Content

1.	ATI should be able to provide capital (venture capital for appropriate technology) resources.	**Being done** -- ATI has provided grants to partner organizations that in turn make venture capital investments, but has not made direct venture capital investments itself. While ATI projects will still provide financing through credit, venture capital, or other arrangements as a means to foster technology dissemination, alternative financing mechanisms no longer constitute a separate program area for ATI. ATI will have a source of loan capital through the DEVCAP Initiative.
2.	ATI needs to continue to find new ways of technology transfer.	**Agree** -- In fact, many of our programs are exploring new ways and methods of technology transfer. In an effort to systematize this we have established a Commercialization Learning Team who, with assistance from outside consultants, will be focusing on this issue.
3.	A consulting firm type role is not appropriate to ATI.	**Agree** -- ATI agrees that reorienting the organization to a consulting firm role would not allow us to meet the objectives of the CA or the Congressional mandate (see memo on ATI's Congressional mandate). ATI does, however, perform consultancy services on a limited basis when it facilitates our primary objectives. For example, ATI participated in a World Bank reconnaissance mission on agricultural diversification in Malawi in the hopes that this would lead to future project work.
4.	ATI needs to more systematically identify soft technology issues (informal linkages within a subsector) through applied research and project implementation activities.	**Being done** -- ATI routinely identifies soft technology issues in project design and will also be doing so in subsector studies prepared for each program area.
5.	ATI should enhance feed-back systems between baseline socioeconomic studies and ongoing project implementation - by having project staff involved in baseline data collection.	**Being done** -- Nevertheless, ATI reserves judgement whether it is more efficient to rely on project staff or consultants for this purpose.

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6.	ATI should develop simple baseline assessments and linked to ongoing monitoring of current and potential primary and secondary clients by strata and gender within projects where it does not now exist. Simple baseline and monitoring procedures need to be instituted within projects, with project staff taking part in these activities so they are able to factor results back into implementation.	**Being done** -- Information on various categories of beneficiaries was collected for 1993 in ATI's new Impact Monitoring System and is disaggregated by gender. In this first year of experimenting with the system, data were estimated by ATI Evaluation staff from available midterm and final evaluations and project progress reports or were obtained from information provided by project field staff and local consultants.
7.	For older projects, ATI could seek funding to assist in developing simple indicators. In projects now being planned, a line item for ongoing monitoring and evaluation should be developed.	**Desirable** -- The IMS contains simple and more complex indicators that have been applied to major current activities producing people-level impacts at the present time. Whenever possible, budgets for new projects include monitoring and evaluation as a line item.
8.	In Tanzania - ATI should seek technical assistance in assessing the current move to contract farming of sunflower seeds. ATI should also explore the possibility of linking activities with Cargill Corporation in seed multiplication through contracting of oilseeds.	**Done/More work needed** -- ATI has already encouraged contract farming for sunflower planting seed in Tanzania and is exploring the possibility of a linkage to Cargill.
9.	In all instances, the use of ATI versus indigenous implementing organizations should be assessed. Over time, ATI should conduct reassessments within specific projects to ensure targets for developing locally sustainable enterprises and intermediary institutions remain realistic. Furthermore, assessments are needed of the kind and magnitude of ATI technical and financial assistance to achieve local institutional sustainability in these and other activities.	**Being Done** -- ATI makes a case-by-case decision on whether existing local organizations have the skills and inclination to implement an ATI-type project successfully. In those cases where these prerequisites are not available, ATI may play a more direct role in implementation. ATI is increasingly establishing targets for developing sustainable local enterprises and assisting intermediary organizations. We conduct informal assessments of the kind and magnitude of technical and financial assistance needed in ATI's programs.

10.	ATI should make simple policy assessments an integral part of initial assessments and project implementation and ATI should increase its at influencing policy through making policy-relevant lessons learned available to donor and national institutions (case in point it Tanzania where apparently reduced subsidies on imported oils resulted in increased sales of oil presses),	Being done -- ATI looks at relevant policy issues in project feasibility assessments and subsector studies. When possible, we try to promote policy changes that would have a beneficial effect on prospects for project success, but we recognize the limited leverage that a small U.S.-based NGO has over governments in less developed countries.
11.	In planning a project for a particular country, ATI needs not only to clearly articulate how macro and sectoral processes affect projects potential, but also to work with field staff to incorporate this understanding into project monitoring/implementation.	We try to avoid doing projects where unfavorable policies would jeopardize project success.
12.	Results and lessons learned from policy studies should be incorporated into ATI's program and project development activities in other areas.	**Done** -- Lessons learned from policy studies are incorporated into ATI's program and project development activities in other areas, as warranted.
13.	ATI should institute within its projects a simple applied research perspective and related methodology that can address project-level applied research needs (examples given: issues that need further study: oil production sales, distribution and consumption; oilseed crop residue being uses as a zero-grazing feed; the potential of the oilseed cake being uses as a value added commodity, etc.).	**Done** -- The Impact Monitoring System is a new mechanism that will allow ATI to answer key applied research questions about the effectiveness of programs and identify areas where more in-depth studies are needed. In the examples given, the IMS will track oil production and sales, but distribution and consumption would be difficult and costly to examine. Experience in implementation also results in identification of applied research needs. For example, ATI identified oilseed cake utilization and marketing as an important issue in Tanzania and a mission was sent to examine this issue.

14.	ATI project staff should be more actively involved in identification of applied research issues, and in minimal data collection and analysis, so that results feed directly back into the project in ways that will enhance project and project staff performance and inform the larger community of donor, research and implementation organizations. Note: "We now understand that an upcoming IDRC grant to ATI will help to facilitate this kind of national and regional coordination."	**More work needed** - Being done to the extent it is advisable. Nevertheless, level of project staff involvement varies from country to country. More work needed in the context of operationalizing IMS and disseminating its results.
15.	ATI should assess carefully where its own competitive advantage lies within a given subsector and/or small enterprise development activity.	**Being done** - ATI's subsector studies will identify that most promising interventions for the organization given ATI's comparative advantage. This year a total of 8 are planned.
16.	ATI should gear marketing studies to identify the range of marketing and distribution options both up- and downstream of the central activity.	**Being done** -- The subsector studies will examine marketing and distribution options and the range of promising products.
17.	ATI should bring-in short-term technical assistance to help identify current and potential marketing outlets and strategies in both formal and informal sectors.	**Being done** -- ATI has brought in short-term technical assistance to identify marketing outlets and strategies. For example, ATI hired short-term consultant Sheila Mooney to assist FUNDAP with handicraft marketing. Also recently (ACDI and Cargill) consultants were sent to Tanzania to assist in an oilseed processing subsector analysis.
18.	ATI staff should familiarize themselves with current programs to address environmental policy issues and become part of this ongoing dialogue, in-country and internationally.	**More work needed** -- Environment represents a new area for ATI. In-house expertise as well as networking are advancing rapidly. ATI staff are increasingly sensitive to environmental issues in project design and implementation and are developing new projects that have explicit environment/natural resource objectives. ATI has prepared a strategy paper on environment/natural resource projects.

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CURRENT USAID - ATI COLLABORATION COMMITMENTS

For the period of September 30, 1989 - March 31, 1994

	Date	A.I.D. Office	Funding Vehicle(1)	Amount	Comments
1	10/90	USAID/Senegal	G	999,379	Technology Transfer Program/Market Gardeners and Ceramicists & Artisans
2	8/91	G/R&D/WID	A.O.	43,957	Mali Study/Cereal Processors
3	10/91	USAID/Honduras	A.O.	14,791	Cashews Processing Feasibility Study/Tree Crop Farmers
4	10/91	USAID/Honduras	I.L.	280,000	Cashews Processing Plant Investment/Tree Crop Farmers
5	1991	G/R&D/WID	A.O.	39,400	Indonesia Venture Capital Feasibility Study/Services
6	5/92	G/R&D/WID	A.O.	40,000	Indonesia Potato Processing & Venture Capital/Resource Poor Farmers
7	6/92	USAID/Philippines	G	200,000	Coconut Processing Pilot Program/Tree Crop Farmers
8	9/92	USAID/Mali	G	24,971	AETA Restructuring/Market Gardeners
9	9/92	USAID/Mali	G	7,000	Coarse Grains Feasibility Study/Cereal Processors
10	9/92	G/R&D/WID	A.O.	101,433	Tanzania /Oilseed Processors
11	9/92	AFR/ONI	A.O.	300,000	Africa Program /Oilseed Processors
12	6/93	USAID/Senegal	G.A.	98,022	Amendment/Market Gardening and Ceramicist &Artisans
13	9/93	Biodiversity Conservation Network	G	49,897	Nepal Feasibility/Non Timber Forest Products Processors
14	9/93	USAID/Uganda	G	249,907	Uganda/Oilseed Processors
15	12/93	USAID/Mali	G	144,018	Collaborative Technology Transfer/Market Gardening
16	6/94	AFR/ONI	A.O.	599,967	Regional Oils/Oilseed Processors
			TOTAL:	**3,192,742**	

Total Other Donor Commitments through 3/31/94: (2)	21,663,868	87%
USAID-ATI Commitments through 3/31/94:	3,192,742	13%
Grand Total:	**24,856,610**	100%

(1) Funding Vehicle:	G	Grant - funding received by ATI through a contractual document
	G.A.	Grant Amendment - a modification of a grant document.
	A.O.	Add-On - an addition to the Cooperative Agreement funding from a Mission or AID/DC
	I.L.	Instrumental Leveraging - funding to an ATI partner for an activity jointly designed

(2) A breakdown can be found in ATI's Leveraging Charts - available upon request

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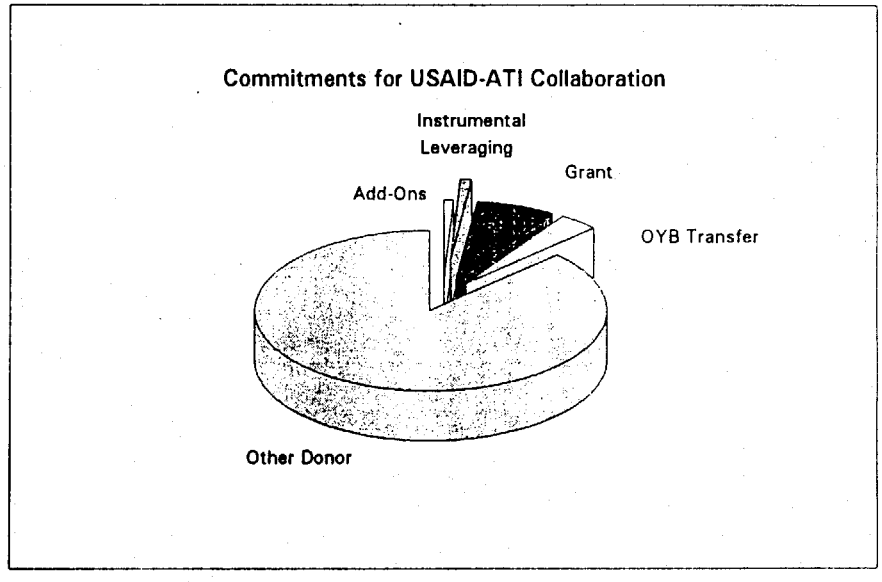
Appropriate Technology International
19-Jul-94

SUMMARY TABLE:

CURRENT USAID - ATI COLLABORATION COMMITMENTS:

Add-Ons:		
1 R&D/WID		224,790
2 USAID/Honduras		14,791
	Subtotal:	239,581
Instrumental Leveraging:		
1 USAID/Honduras		280,000
Grant:		
1 USAID/Senegal		1,097,401
2 USAID/Uganda		249,907
3 USAID/Philippines		200,000
4 USAID/Mali		175,989
5 Biodiversity Conservation Network		49,897
		1,773,194
A.I.D. OYB Transfer:		
1 USAID/AFR/ONI		899,967
	TOTAL:	**3,192,742**



PROPOSALS SUBMITTED:

1 USAID/Senegal	1,392,704
2 USAID/Mali	1,324,411
3 USAID/Uganda	349,043
6 Biodiversity Conservation Network	638,470
5 USAID/Bangladesh	600,000
5 USAID/Gambia	65,884
TOTAL:	**4,370,512**

Total Other Donor Commitments through 3/31/94:		21,663,868	87%
USAID-ATI Commitments through 3/31/94:		3,192,742	13%
	Grand Total:	**24,856,610**	**100%**

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ANNEX VIII

- LIST OF PERSONS/INSTITUTIONS VISITED OR CONTACTED BY PHONE

LIST OF PERSONS & ORGANIZATIONS CONTACTED

I. UNITED STATES

A. USAID/WASHINGTON, D.C.

Anicca Jansen - Economic and Institutional Development (EID), AID/W
Roberto Castro - EID, AID/W
T. David Johnston - EID, AID/W
Tom Meehan - AID/W
John Wilkinson - AID/W
Mary Newton - PVO Office - AID/W
Lenora Watlington - PVO Office - AID/W
Sally Jones - PVO Office - AID/W
Wanda Lewis - PVO Office - AID/W

B. ATI/WASHINGTON, D.C.

Andrew Maguire - President
Valeria Budinich - Vice President, Operations
Lisa Stosch - Assistant to the Vice President of Operations
Ken Locklin - Senior Advisor
Carlos Lola, Program Development Director, LAC
Jeanne Downing - Program Development Director, Africa
John W. Croucher - Program Development Director, Asia
Richard Bowman - Program Development Director, Global Livestock Program
Eric Hyman - Program Economist/Evaluation
Steve Romanoff - Evaluation
George Woodring - Director, Finance and Administration
George Bednar - Finance and Administration Director, Communications
José Gemeil
Edward Perry
Jonathan Otto
Dieter Fischer - Program Development Officer, Africa
Ann T. Koontz - Program Development Officer, Asia
Gail Keyes-Allen - Asia Regional Administrative Manager
Sharmila Ribeiro - Program Development Officer, Global Livestock Program
Rob Esposito - Special Assistant

C. OTHER ORGANIZATIONS/WASHINGTON, D.C.

Laura Ramirez Ramos - InterAmerican Development Bank
Anthony Haupt - Dimension International Inc.
Jorge Gandara - FUNDAP/Guatemala (visiting U.S.)

II. BOLIVIA

A. USAID

Carl Leonard - Mission Director
William Baucom - Director, Office of Livestock and Rural Development
Charles Nash - Rural Development Supervisor

B. ATI AND PARTNER

UNDP

Walter Franco - Representative, UNDP/Bolivia
Helena Lindermark - FAO/Bolivia (formerly w/UNDP in Bolivia)

Project Staff

Luis Ticona - President, AIGACAA/Bolivia (National Project Director)
William Gschwend - International Project Director/Bolivia/ATI
Serapio Ramos - Chief, Extension Program, ATI/AIGACAA
Walter Vilela - Veterinary Services, ATI/AIGACAA
Ester Ibanez - Marketing Manager, ATI/AIGACAA
Jorge Montero - Chief, Credit Program
Janet Albino - Communications Consultant, ATI/AIGACAA
Tambero - wool purchasing

C. OTHER ORGANIZATIONS

Gonzalo Navajas, Secretary of Agriculture
Carlos Bruckner, Subsecretary of Livestock
Julio Santines - Bolivian/Peruvian Lake Titicaca Commission

D. BENEFICIARIES

Juan de Dios - Cosapa
Rosa Ramirez de Chambi - Cosapa
Eugenio Chambi - Cosapa (founder & board member AIGACAA)
Francisco Taviar Marca - Farmer in Cosapa, Bolivia

III. SENEGAL

A. USAID

Anne M. Williams, Mission Director
Douglas Sheldon, Deputy Mission Director
Issa Mbaye, Project Manager
Mamadou Kane, Project Manager (previous
Lance Jepson - Chief, Agricultural Development Office

? ZIMBABWE?

Collet Cohen - Project Officer

B. ATI AND PARTNERS

Ibrahima Diaby, Director, Small Enterprise Technologies Project, ATI and all project personnel (13)
General Manager/Owner and Abdul Lesec - TROPICASEM
Mohktar Fall - RADICOM

C. OTHER ORGANIZATIONS

Ken Byrd, Coordinator Small Enterprise Development (SED), Peace Corps
Pape Drop, Program Assistant (SED), Peace Corps
René Sow - Church World Service
Steven Browne - PVO Co-Financing Project Director, New TransCentury Foundation
Financial Director & Assistant Program Officer, New Transcentury Foundation
Marketing Manager - SOFICA (Motorized pump distributor)
Michel Gerard - FAO Advisor
Fangone Amar - World Bank

D. BENEFICIARIES

Mamadou Cisse and Babacas Tine - Pump manufacturers - Thies
2 market gardeners - Thies
1 "large" farmer - Thies
Haby Kane Thiam - Pump manufacturer in Saint Louis
1 group of women market gardeners near Saint Louis
Senegal Association for Research & Development (ASEARAT) - Kamal Massar
1 market gardener near Lac de Guier
1 Diambar stove manufacturer - "Peking" Dakar
1 Diambar stove manufacturer - Dakar
1 ceramic stove liner manufacturer - Dakar
2 women's groups; stove sales persons - Dakar
3 households owners of Diambar stoves - Dakar

IV. ZIMBABWE

A. U.S. EMBASSY/USAID

Deputy Chief of Mission, U.S. Embassy
Mission Director
Robert E. Armstrong III, Agriculture/Resources Management
Calisto Chihera, Agricultural Development Office

B. ATI AND PARTNERS

Project staff

Michele A. Bousquet - Project Director, ATI/ZOPP
Gregory Zador - Regional Coordinator Southern Africa, WUSC, Harare, Zimbabwe
Vukile Mlambo - Consultant ATI/ZOPP, Harare, Zimbabwe
Chief, Extension Department, ATI/ZOPP

Partners/collaborators

Pierre-Paul Perron - First Secretary, Canadian International Development Agency (CIDA)
Andrew Macpherson - Director, MacPherson Consulting Group

C. OTHER ORGANIZATIONS

N. Zitsanzia - Marketing staff, Grain Marketing Board, Harare
M. Mukandiwa - Marketing controller, Grain Marketing Board, Harare
Manager, Grain Marketing Board, Rusape
Katja Jassey, AGROTEC (UNDP) - Harare
Timothy E. Simalenga, AGROTEC (UNDP) - Harare
Ernest G. Mupunga - Director, Agricultural and Rural Development Authority (ARDA) - Harare
Messrs. Chikumbirike and Mavedzenge - Rural Oil Manufacturer's Association (ROMA), Harare
Steven Chipika - Policy Coordinator, Intermediate Technology Development Group (ITDG)
Michael B.C. Gezana - Technical Project Officer - Food Processing, ITDG
Wilson Mutsekwa - Finance and Administration Manager, ITDG
Brenda Nyamanzi - Project Coordinator, COOPIBO, Mashonaland East
Leiston Enterprises (Pvt) Ltd. - Rusape (ITDG Tiny Tech oil pressing firm ("Sizzle")
Bob Dunclay, Marketing Manager, AgriFoods, Harare
John Odendaal, Marketing Services Manager, Pannar Seed, (PVT)Ltd., Ruwa
Bruce Bullock - Manager, Agseeds, Farmer's Co-op Limited, Harare

D. BENEFICIARIES

Women's oil pressing cooperative - Chigayo
Women's oil pressing cooperative - Rusape/Mukoto
Star Engineering - press repair/assembler (agent), Rusape
Tanroy Engineering (oil press manufacturer) - Harare
John Wroe - Shamen Engineering (oil press manufacturer)
Kalisky - (oil press manufacturer), Harare
J & G Manufacturing Company (oil pressing company) - Mutoko

V. NEPAL

A. ATI AND PARTNERS

Gyan Lal Shrestha - Coordinator, Asia Network for Small-Scale Agricultural Biotechnologies (ANSAB), Kathmandu
Ramesh Kumar Shrestha - Consultant, (Venture Capital and Biodiversity) (ANSAB) Chief - Biodiversity Unit, ANSAB
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Prabha Pradhan, Chairperson, Botanical Enterprises Pvt. Ltd, Kathmandu
Rajiv Pradhan, Managing Director, Botanical Enterprises Pvt. Ltd. Kathmandu
Naheed Atiq Haque - Assistant Resident Representative (Chief, Programme Unit II), UNDP, Kathmandu
Katsuhiko Masaki, Programme Officer, UNDP, Kathmandu

B. OTHER ORGANIZATIONS

Ravi D. Sharma - Managing Director, Agro Enterprise Centre (AEC), Kathmandu
Deva Bhakta Shakya - Deputy Managing Director, AEC, Kathmandu
Shiva Bahadur Nepali - Executive Director and Member Secretary, Nepal Agricultural Research Council (NARC), Kathmandu
Resident FAO potato specialist assigned to the NARC
Representatives - Extension Department, Department of Agriculture, Kathmandu
B. P. Sinha - Secretary, Ministry of Agriculture, Kathmandu
R. P. Yadav - Member, National Planning Commission, Kathmandu Binayak Bhadra - Member, National Planning Commission, Kathmandu (ex-Executive Director of New Era)

C. BENEFICIARIES

19 men and 6 women farmers - Nala Village, Kabre
10 women and 9 men farmers - Panauti

VI. PHONE CONTACTS

Andes Qvortrup - DANIDA/Kampala
Mary Racelis - The Ford Foundation/Manila
Sibel Berzeg - ex-USAID/Philippines
Albert Merckel - USAID/Honduras
Gary Bayer - USAID/Uganda
David Nelson - USAID/Philippines
Roger Bloom - USAID/Nepal

ANNEX IX

- **SCOPE OF WORK**

BACKGROUND

ARTICLE I - TITLE

(Project No. 940-001 Program Development and Support Project ATI-Evaluation)

Final Evaluation of the Appropriate Technology International Cooperative Agreement (ATI-III)

Cooperative Agreement No.: DHR-5455-A-00-9082-000
Grant: DHR-5455-G-00-1027-00

ARTICLE II - OBJECTIVE

The purpose of this evaluation is to assess the performance of Appropriate Technology International (ATI) under its current Cooperative Agreement (CA) with USAID, which was initiated in 1990, and is now in its last year of implementation. This assessment shall give an objective, in-depth review and quantitative presentation of ATI's progress in meeting the goals of the CA, and its amendments. The ability of ATI to meet the agreed upon goals of the CA is of particular importance because ATI has requested for FY95 and beyond that USAID increase its support substantially.

The objectives of this evaluation are to determine:

(1) The impact of ATI activities with respect to partners and beneficiaries;

(2) The effectiveness of ATI's new commodity subsector approach and small producer development paradigms as tools for development;

(3) ATI's responsiveness to recommendations made during the mid-term evaluation, and other evidence of cooperation between USAID and ATI;

(4) ATI's past and probable future success at attracting additional funding through buy-ins and cost-sharing as a means to sustainability; and

(5) The degree to which ATI's activities are germane to USAID's current economic growth strategy, and ATI's organizational capability to absorb additional funding to pursue these activities.

ARTICLE III - STATEMENT OF WORK

BACKGROUND

The ATI program changed considerably during the life of the CA. The original CA emphasized financial indicators that were to serve as measures of effectiveness and sustainability. The 1992 evaluation found that this emphasis was inappropriate and urged ATI and USAID to shift emphasis to programmatic targets, the rationale being that these targets would show ATI's impact on small farmers, micro-entrepreneurs and other beneficiaries. Programmatic impact measures were developed under the amended CA which would determine the success of ATI's revised strategy.

Along with this, during the CA ATI shifted from a project approach, which is based on a series of discrete development initiatives to a systems approach, in which the client is the center piece of a range of interrelated developmental activities. The approach also includes an effort toward supporting the development of globally replicable technology that could be used by large classes of small producers, thus increasing the number of small-scale producers that ATI could impact.

ATI's revised strategy is geared to generating employment while expending appropriate technologies through the promotion of micro- and small-scale enterprises. To this effect, ATI has adopted strategic subsector analysis as a tool to identify multiple interventions along a value-added chain. These interventions would substantially increase the productive activities of small-scale producers as well as enhance their connections to wider markets. This approach is intended to both transform and increase the productive and value-adding capacity of small scale producers.

A more detailed background of ATI's history and activities is provided in Annex 1, "Further Background."

STATEMENT OF WORK

The amended Cooperative Agreement states that, "A final external evaluation will be carried out prior to the end of this Cooperative Agreement. The external evaluation will focus on:

(1) progress toward achieving stated goals, objectives and targets and any operational problems or constraints affecting achievements; and

(2) the status of individual programs or projects and the impacts produced.

The document also indicates that "Particular attention will be given to measuring ATI's success in meeting its targeted outputs and the effectiveness of its programs," adding that the external evaluation will assess:

(1) ATI's progress in meeting the objectives of this Cooperative Agreement;

(2) The quantity and quality of outputs produced;

(3) The contribution of the outputs to the achievement of the Cooperative Agreement's program impact indicators (discussed below); and

(4) The appropriateness or adequacy of project inputs.

The cooperative agreement also states that the evaluation will assess whether major management and technical problems exist and, if so, the evaluation is to propose solutions to these problems.

This final evaluation of the ATI cooperative agreement will address three areas of interest. First, the evaluation team will look at general issues that deal with the overall agreement as well as management and operational issues. These include whether the ATI program, and particularly its new approach, is relevant, effective, efficient, sustainable, and responsible. Annex 2, "General Issues to be Addressed" contains illustrative questions which the team will need to consider in order to address each of these issues.

In addressing these general issues, the evaluation team shall need to consider how ATI's history has shaped its performance in the past and how its past continues to influence the way ATI performs today. In particular, the team should examine:

(1) the initial "Small is Beautiful" premise upon which ATI was founded;

(2) the specific niche or niches ATI is now trying to serve, especially if fostering "appropriate technologies" is not the centerpiece of its revised strategy;

(3) the factors which continue to shape ATI's performance; and

(4) the extent to which the organization and its staff have adjusted to ATI's new directions.

Second, the evaluation team shall examine specific targets which were set in the workplans and evaluate the progress which ATI made toward meeting those targets. Sample questions regarding the extent to which workplan targets were met, have been included in Annex 3 "Questions Based on Workplan Objectives." Goals, such as "Increase volume, quality or efficiency of production," are taken directly from ATI workplans. Questions following these goals reflect USAID's interest in an objective, quantitative evaluation of ATI's impact.

Third, the evaluation team shall address impact indicators established by ATI and USAID during negotiations of the amended CA. Since ATI planned to begin reporting on indicators beginning March 1994, the evaluation should be limited to addressing the appropriateness of these impact indicators and ATI progress in

establishing a system to report on them, e.g., the establishment of baseline data. Indicators, taken from Attachment 5 of the amended cooperative agreement are included in Annex 4 "ATI's Internal Program Impact Indicators."

The evaluation team shall ensure that, in the process of answering the above questions, it also addresses the USAID "cross-cutting themes" of gender, cost-sharing, buy-ins, sustainability and information collection and dissemination. (See Annex 5: "S&T Cross Cutting Evaluation Themes.")

EVALUATION TEAM COMPOSITION

It is estimated that the evaluation can be conducted by four people. All evaluators should have good written and verbal skills. Overseas experience in Africa, Latin America, and/or South or Southeast Asia would be extremely useful. French and Spanish language ability is also highly desirable. Experience in conducting evaluations is required. Knowledge of USAID's design, implementation, and monitoring process is required. At least one member of the team should have experience with environmental and micro-enterprise development activities.

Specific team members qualifications would include:

1. **TEAM LEADER:** Economist with at least a Masters degree and at least 10 years of development experience. Extensive experience as an evaluation team leader is required. in addition, overseas experience focusing on environment, small business development and the development and dissemination of appropriate technologies for producers in LDCs is desirable.

2. **STRATEGIC PLANNER/ENVIRONMENT & MARKETING EXPERT:** A recognized and widely respected development expert with extensive experience (at least 10 years) in subsector identification, strategic planning, marketing, project evaluation and small business development. A minimum of a Masters in Ag Economics and/or Business Administration is required.

3. **INSTITUTIONAL DEVELOPMENT/SMALL BUSINESS EXPERT**: A social scientist with at least a Masters degree in anthropology/Economics, or related field, with at least 10 years experience in institution building and small business support in developed and developing countries.

4. **FINANCIAL ANALYST/ECONOMIST**: Minimum of 5 years professional experience with cost/benefit analysis, business plan/budget design, income survey methodologies

USAID staff in the G/EG Center will help facilitate the work of the team in Washington, and staff from the Office of Economic and

Institutional Development currently working with ATI will accompany the evaluation team ont their field visits. These personnel will be available for information purposes.

EVALUATION PLAN

The evaluation shall take an estimated 11 weeks (5 days/week) in Washington and 6 days/week overseas) over a period of 5 months. This includes one week in each of five counties in Latin America, Asia and Africa and five weeks in Washington for research and write-up. Estimated time from start to finish is 110 calendar days, allowing for travel time, days off, and turn-around time.

The evaluation shall be conducted in two phases. The first phase shall be conducted in Washington and will involve extensive document review, meetings with ATI staff and interviews with USAID staff. It would also be useful for the evaluation team to interview development professionals and experts knowledgeable about the subsector approach and the promotion of small business development. Background documents to be reviewed include the CA and the leveraging grants, internal evaluations, and workplans and progress reports. Targets should be compared with accomplishments.

The evaluation team shall review ATI's performance with USAID professionals to assess ATI's ability to coordinate its activities effectively with USAID's programs in the technical bureaus and principal countries targeted in ATI's workplans for project and program development. The evaluation team shall assess the relevance of ATIs approach to meeting or carrying out USAID strategies for economic growth.

Preliminary findings from Phase One will be used to refine evaluation questions and to finalize sites to be visited in Phase two of the evaluation. Site selection will be geared to asses the impact of ATI's approach on each of its major areas of emphasis.

Phase Two consists of on-site study of projects in five project assisted countries. Site visits will include meetings with relevant USAID field staff, and interviews with ATI's NGO partners and project beneficiaries. Data should be collected that can measure ATI's impact. Particular attention should be paid to the value added by ATI activities.

EVALUATION SCHEDULE

Prior to the evaluation, the G/EG/EID office will send a questionnaire to USAID Missions and Regional Bureaus that participate in or have participated in ATI activities. To the extent possible Mission and Regional Bureau responses will be available before the evaluation team completes the first phase of the evaluation.

ATI'S PROGRESS: 1989-1994
Response to the Draft USAID Evaluation

October 18, 1994

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PREFACE

Appropriate Technology International (ATI) was established in 1976 in response to a U.S. Congressional initiative which sought to fill a void in the U.S. foreign assistance program. ATI's mandate was "...to promote the development and dissemination of technologies appropriate for developing countries" in recognition of the fact that "...much of the technology used in the United States and other industrialized countries is not... appropriate for use on the very small farms and business enterprises that make up so much of the economic activity in the developing world." [1]

Since its operation began in 1978, ATI has received core funding through one grant and two cooperative agreements with the Agency for International Development (USAID). It was not until the period of the most recent agreement, ATI-III (September 30, 1989 to date), that ATI transformed itself to become one of the few organizations in the world to promote micro-enterprise development through comprehensive production, processing, and marketing improvements.

What follows is ATI's response to a draft evaluation of its work, operations, and purpose during the ATI-III Cooperative Agreement (CA) period. Its arrangement by topics corresponds to the draft evaluation and includes separate annexes that detail factual corrections and points needing more complete discussion.

The Congress made clear in its mandate that ATI's "... Goal should begin -- not with consideration of technology -- but with identification of the real needs of people in their local environment." [2] *ATI's mission, like that of USAID, is advancement of the developing world's many low-income small producers. This report documents ATI's progress in serving these important and under-served clients.*

---

[1]House of Representatives Committee on International Relations Report, December 20, 1975

[2]Ibid

EXECUTIVE SUMMARY

ATI's response to the draft evaluation prepared by Development Associates is entitled "ATI's Progress: 1989-1994". **The draft evaluation concludes that ATI has in fact made much progress, and has effectively accomplished the goals set out for it in the Cooperative Agreement and its amendments.**

> *ATI diversified its funding, focused its program and otherwise implemented changes discussed in earlier evaluations.*
>
> *ATI attracted donors, leveraged funds at a level unique among USAID-supported programs and surpassed donor implementation targets, making future collaborations likely.*
>
> *ATI's activities are in accord with USAID's objectives and strategies for sustainable development.*
>
> *ATI is well managed, has fulfilled all USAID requirements for financial and administrative systems well, and has excellent capacity for handling additional funding for an expansion of programs.*
>
> *ATI has been successful at building partnerships with institutions in LDCs to increase their capacity, and its programs have produced positive income gains for low-income, small-scale producers, including women.*

ATI agrees with the evaluation draft that more remains to be done to enhance the long-term commercial viability of ATI's targeted beneficiaries -- low-income small-scale producers, who are underserved by the vast majority of development assistance resources. The methodological issues discussed in the draft evaluation--pricing, efficiency, marketing, choice of impact indicators--are issues with which ATI deals daily. ATI also agrees that it needs to continue its process of decentralizing leadership responsibility and staff support to the field.

ATI takes strong issue, however, with a significant number of incorrect findings and conclusions in the draft evaluation. These inaccurate findings may have derived from a substantial number of factual errors and omissions or incomplete information, which limit the value of the text. In addition, while the draft evaluation appears to strive for balance in its presentation, some perspectives that are at odds with the prevailing views of most development professionals color the analysis. For example, the draft evaluation appears to employ an unconventional definition of pilot

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projects, and comes to erroneous conclusions about actual levels of impact achieved because it fails to use standard economic techniques for benefit estimation. Perhaps most importantly, **the draft evaluation fails to recognize the evolution of ATI as an institution during the course of the CA, and misses both the growth in the impact of its programs and progress that ATI has made in moving toward more commercial strategies for technology transfer.**

The draft evaluation's criticisms of subsidies or other program support are based in part on factual errors and are equally applicable to all development assistance programs. Development assistance is premised on the recognition that up-front investments need to be made to alleviate poverty and build human resource capacity. The views on institutional sustainability contained in this draft evaluation are strikingly inconsistent with those of the prior evaluation team that completed its work only 10 months prior to the commencement of the evaluation.

The Scope of Work for this evaluation called for an assessment of ATI's performance during the period 1989-1994 against the ATI-III Cooperative Agreement. Since ATI has fulfilled all of its contractual requirements and met the targets of this Cooperative Agreement, and, as the evaluators recognize, has dynamic leadership and a talented and well-motivated staff, **it would appear ATI is well situated to rise to the challenges posed by the evaluation for technology commercialization and scaling up of impacts to benefit larger numbers of people in the future.**

These strengths, and ATI's experience

1) in microenterprise development to benefit men as well as women
2) in leveraging program funds to influence major development assistance institutions
3) in its environment/natural resource programs and
4) in crafting productive collaborations with local NGOs and private producers,

all combine to make it an important asset to USAID and to the U.S. foreign assistance program.

In the body of its response, ATI provides specifics about its progress under the Cooperative Agreement. The listing of corrections to errors and omissions is provided in the accompanying annexes. With this information at its disposal, USAID will be well positioned to review the status of both the draft evaluation and ATI's programs themselves. ATI believes that this review will provide a concrete basis for inaugurating a new era of collaborative cooperation between USAID and ATI.

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A. The Transformation of ATI's Institutional Structure and Focus

The terms of the ATI-III Cooperative Agreement (1989 - 1994) called for ATI to reorient itself by becoming a demand-driven designer, manager, and catalyst for rural and peri-urban small business development. Prior to this change, ATI had operated under ATI-II as a donor organization, geared to supporting the commercial demonstration of promising appropriate technologies. Under ATI-III, ATI was to have fewer programs, focus those programs on global economic subsectors, expand collaborations with local institutions, decentralize responsibility for project implementation, diversify sources of funding, and measure its direct impact.

Between 1990 and 1994, ATI implemented those institutional changes.

ATI achieved focus. The institution eliminated projects that focused exclusively on technology development and evolved a multiple-intervention approach that encompasses credit, technology, training, marketing, management, and other factors as necessary to address the constraints of producers along a value-adding chain. ATI targeted a handful of globally relevant classes of small-scale producers with similar problems and opportunities, such as animal herders and fiber processors, oilseed farmers and pressers, dairy producers, tree crop farmers, collectors and processors of non-timber forest products, and market gardeners.

ATI maximized resources devoted to achieving impact. While ATI actively develops small-scale exploratory pilot projects as part of its early stage R&D efforts in a new sector, the institution no longer focuses its efforts in such activities. At the beginning of the Cooperative Agreement, all of ATI's portfolio was in the exploration or pilot phase; today, most resources are dedicated to ramp-up of ATI's more mature programs.

ATI surpassed the fund leveraging goals set in the CA. Five years ago, AID core support accounted for nearly 88 percent of ATI's budget; in 1994, core AID funds account for 51 percent of expenditures, and annual expenditures have doubled in only three years. ATI won $21,882,000 in commitments from missions, bilateral and multilateral institutions, private foundations, and private corporations. During the course of this CA, ATI increased collaborations with USAID missions and other bureaus to a level that compares favorably with other USAID/G/EID funded programs.

Core funding from the Cooperative Agreement was the support for necessary program development, evaluation, and some project costs that enabled this achievement. **Many of ATI's financial partners are repeat investors,** and they have shown a high level of satisfaction with ATI's implementation work, as shown in recent evaluations.

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Operating efficiency has climbed over the course of the CA. Overhead rates have been reduced by more than half to the mid-20% range. The ratio of costs of delivery of assistance to economic benefits achieved by producers has plummeted.

ATI staffing and management is being rationalized and decentralized. In 1990, ATI's U.S.-based staff comprised 89 percent of the total; in 1994, it accounts for just 31 percent. In 1990, ATI had just one field office; in 1994, there are 10. ATI program partners include leading local and national institutions across the developing world. Of the 19 ATI program initiatives in operation, nine are directly implemented in the field by ATI.

In summary, under this Cooperative Agreement, **ATI has focused its efforts, leveraged funding, decentralized operations, implemented larger projects, and become an impact-oriented institution.**

B. Impact Under The ATI-III Cooperative Agreement

ATI has achieved private-sector benefits by fostering the business opportunities of low-income farmers and entrepreneurs. **Impact Monitoring System data show that the number of ATI's direct beneficiaries has increased dramatically over the course of the Cooperative Agreement to the current level of 60,000.** The number of direct beneficiaries is projected to exceeding 100,000 by 1995 under existing program initiatives where funding commitments have already been signed with donors.

When considering these accomplishments, it is important to recognize that ATI conservatively defines direct beneficiaries to include only entrepreneurs or firms manufacturing or using ATI-promoted technologies and their hired workers, as well as farms and other enterprises supplying raw materials for processing. **Unlike the definition used by many development assistance organizations, this definition does not count all the family members of the direct beneficiaries.** In 1993, client enterprises received incremental gross economic benefits equal to eight times their direct investment.

As ATI documents in the body of this response, its 1994 program portfolio has made major strides:

- Large overall impact compared to organizations and projects of similar size

- Expanding impact, increasing more than five fold in the last five years as a result of substantial increases in the scale of program operations

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- Enterprises operating on a commercially viable basis and earning profits at market prices (with no social pricing mechanisms that set product prices artificially)

- Strictly bounded enterprise support provided for a limited start-up period

- Dramatically decreasing support costs per beneficiary as programs mature

- Good outreach to assist enterprises owned and operated by women (beneficiaries about equally divided between women and men).

Established, mature ATI initiatives cannot, by any means, be considered "pilot projects". In Tanzania, for example, **rural oilseed processors operating ram presses are now producing cooking oil equivalent to 2 percent of the nation's total vegetable oil imports,** with no continuing ATI role in these enterprises. Because of the marketing links newly established between low-income producers in remote Andean communities and high-fashion European clothing manufacturers, the producer-owned Bolivia alpaca fiber processing plant will earn more than $1.4 million in revenue in 1994 -- **an amount equal to 10 percent of Bolivia's projected fiber exports in 1994**. Few NGOs with a comparable amount of core funding (or even total program funding) can claim impacts of this magnitude. Nevertheless, ATI is committed to increasing the magnitude of the impact of its current programs and its efficiency in achieving that impact. Program expenditures per direct beneficiary have declined from several hundred dollars in 1991 to $62 in 1994.

The draft evaluation's discussion of ATI's impact is based on a faulty measure: the quantity of tools sold times the price of the tools. This approach is counter to USAID standards, which propose counting net changes in income, employment, and the quality of life. In addition to direct financial benefits, the 1992 Evaluation Team's assessment of ATI's work (completed only 10 months prior to the initiation of the present evaluation) correctly emphasized the "many extra-market benefits of ATI's program, such as savings in women's time, increased nutritional values, and increased organization capabilities." **This spectrum of benefits is nowhere reflected in the impact calculus of the current draft evaluation.**

C. ATI's Enterprise Development Strategies

Achieving commercially viable and environmentally sound productivity gains is ATI's primary goal for all of its clients. **Even if all ATI activities ceased tomorrow, the enterprises assisted to date would continue to operate profitably, because of the sustainability of ATI's business development strategies.**

Most development organizations, including ATI, define "sustainability" as the capacity of beneficiaries to maintain the gains they have made as a result of project interventions after external assistance has ended. In the context of ATI's program, this means that the assisted enterprises manufacturing a technology and the firms, farms, and households using the technology have access to the resources required to continue operating profitably and in a manner that does not degrade the environment. Contrary to the draft evaluation's position, sustainability does NOT mean that the sunk costs for technology R&D, training of manufacturers and users, quality control, and information dissemination in a program need to be recovered. **The interventions ATI promotes are commercially viable and hence sustainable for the manufacturers and users because they produce or save income.** Manufacturers and users are investing their own resources because they expect to earn a reasonable profit doing so.

Of course, the project cycle of ATI activities under the Cooperative Agreement is quite long, so the draft evaluation reviews programs that have not been completed. **To varying degrees, however, each has achieved some sustainable development, and each has an exit strategy for leaving unsubsidized activity at the end of its operations.** Two examples here will demonstrate the case; others can be found in the body of the response.

> ATI's Senegal program promotes market gardening and fuel-efficient stove-related businesses without subsidizing them or disrupting the commercial linkages between producers and consumers. Contrary to the draft evaluation's assertions, ATI funds go toward training manufacturers and for mass media advertising -- and nothing else. **ATI is <u>not</u> subsidizing the manufacturing of these products, acting as sales agents, or negotiating prices.** Even the "training of trainer" activities and advertising support phase out by year five of the program.
>
> The business plan for ATI's new dairy producers initiative in India calls for the program to finance a major portion of the costs of establishment of the first three feed supplement factories. These funds will be repaid by the local dairy cooperatives into a revolving fund to be administered by the National Dairy Development Board, and made available to support further plant construction in new regions. **As the manufacturing base expands to more than 50 facilities over the next 10 years, the majority of the future financing will come from local commercial and development banks.** Project support for the marketing agents will be phased out over six years, with local feed supplement manufacturers taking on the full responsibility for training and supporting their sales agents.

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D. Conclusions

As the draft evaluation noted, ATI's goals and strategies are strongly congruent with those currently held by USAID. ATI's programs for transforming the economies of small-scale producers provide key ingredients that are an important contribution to the U.S. foreign assistance program. In summary,

- **Successful microenterprise development depends on an integrated set of services** in technology, financing, training, and marketing innovations that make enterprises more productive and commercially viable.

- **Making improved natural resource management profitable for major classes of low-income producers is central to reducing natural resource depletion** (Senegal Stoves Project) and degradation of fragile lands (Bolivia Alpaca Fiber Producers and Processors Project), reducing pollution (as in India Textile Producers Program), and even global climate change (as can be seen in ATI's India Dairy Farmers program that reduces methane emissions while increasing productivity).

- Advancing democracy and political stability requires more than the vote; **transforming small producer economies gives the low-income majority in less developed countries an economic stake in the market system** and an opportunity to improve the education of their children to be involved citizens.

- Increasing business opportunities for women entrepreneurs sets a solid foundation for improved standards of living in the developing world and enhanced family planning over the long term.

- By leveraging funds from a wide range of other donors at an average rate greater than $13 for every $1 ATI brings to the table, **ATI is multiplying the impact of USAID-provided core and leveraging funds**.

- **ATI partnerships enhance the capacity of local institutions** to foster commercially viable local enterprises and pass on lessons learned in South-to-South development efforts.

- Building the capacity of ATI's small producer clients to implement private sector solutions **makes the low-income majority the prime movers in the growth and development of their communities and nations**, reducing dependence on foreign aid over time.

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ATI has good reason to be proud of its transformation and accomplishments under the current Cooperative Agreement. The new ATI is committed and positioned to do even more. While no organization has the "silver bullet" to address the challenges associated with transforming small producer economies, ATI and the funders that have made major investments in its work (more than $20 million excluding core funds) believe ATI is part of the solution. Continued USAID core support is essential to fuel the expansion of ATI's outreach in a manner that is consistent with the principles of the U.S. foreign assistance program. For its part, ATI is commited to work alongside USAID to extend further both the range of its impacts and its operating efficiency as a long-term partner in development assistance.

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I. APPROPRIATE TECHNOLOGY INTERNATIONAL: The Institution

The Transformation of ATI

"[ATI] is emerging from an intense period of transformation from a grant-making institution to a facilitator and provider of strategic assistance...reconstituting itself in a new form along with project, technology, and systems development...[Its] mission is highly relevant and its strategies are significant, effectively pursued, and have a high potential for impact on greatly increased numbers of beneficiaries...Even when it makes progress on all these fronts, there will be outside critics with different ideas about priorities, focus, and methods." 1992 Mid-Term Review of ATI for USAID, Winrock International

Under the ATI-III Cooperative Agreement (CA) signed in September, 1989, the Agency for International Development (USAID) directed Appropriate Technology International (ATI) to fundamentally re-orient itself, to become a pro-active, demand-driven designer, manager, and catalyst for rural and peri-urban small business development. Under its previous charge, ATI had been a donor of grant funds for a broad range of appropriate technology activities (ATI I, 1978-1983) and an applied research organization involved with demonstration projects (ATI-II, 1983-1989).

The driving force behind the conversion was the realization that even "good" technology doesn't self-perpetuate, small business development is far more complex than just providing the "tools", and a carefully designed dissemination plan is essential to go beyond pilot project status. Accordingly, ATI's new goals became direct outreach and impact, interventions beyond just technology, cost-effectiveness, and program replication under the rubric of an entirely different mission: movement from funder of dozens of small, experimental projects to initiator of large-scale, commodity-specialized small business development programs.

Success for this new direction was dependent on achieving significant institutional and program reform, working with local, private sector, and NGO partners in reformulated ways, understanding the nuances of decentralization, and diversifying ATI's sources of funding.

Measuring the Change

Today's ATI is a radically realigned institution beginning to deliver significant increases in cost effective impact. Figure One on page two dramatizes the scope and dimensions of ATI's revolution. Figure Two on page three portrays direct beneficiary impact building over the course of ATI's transformation to current levels of 60,000 and exceeding 100,000 by 1995, given initiatives already underway.

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Figure 1

ATI: MEASURING THE CHANGE
1989 - 1994

IN FOCUS

	1989	1994
Number of Major Programs	22	6
Number of Projects[1]	64	19
Projects Less Than $200,000	56	5
Projects $200,000 To $500,000	8	6
Projects Over $500,000	0	8

IN EXPANDED AND DIVERSIFIED FUNDING

Total Budget	$3,460,000	$7,500,000
Number Of Donors	10	29
Cumulative Leveraged Funds	$760,000	$21,882,000
Cumulative USAID Mission Contributions To Programs	$525,000	$4,225,000
USAID/W Support Funding Contribution	88%	51%

IN DECENTRALIZATION

Headquarters Staff	35	51
Field Staff	5	111
Headquarters To Field Staff Ratio[2]	7:1	1:2
Field Offices[3]	1	10

IN DIRECT IMPACT

Number Of Beneficiaries[4]	<5,000	64,000
% Women Beneficiaries	<20%	43%

[1] 1989 figures portray ATI status at the close of ATI II; 1994 figures reflect status at close of ATI III.

[2] Headquarters staff represents all U.S.-based personnel paid through ATI's payroll. Field staff represents: (a) direct hire employees paid through ATI's payroll; (b) long term contract employees (those with at least a six-month personal services contract); and (c) professional and support staff working on an initiative either managed or directly funded by ATI.

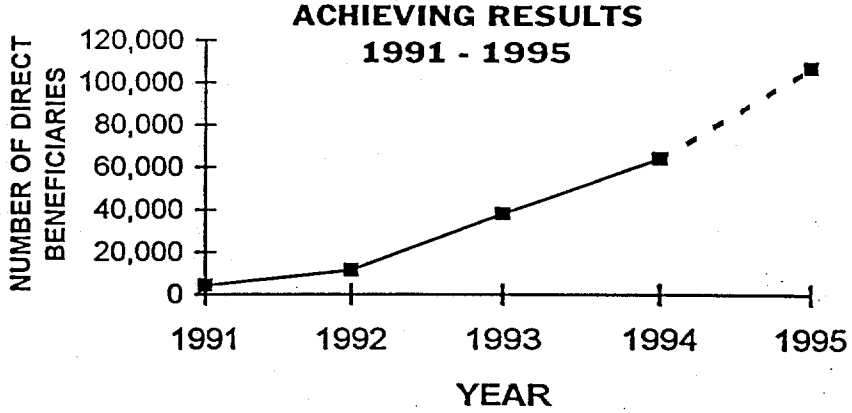
[3] Includes associate offices.

[4] ATI's charge and portfolio in 1989 under the ATI II CA was oriented to technology design and testing, not impact. 1989 numbers are staff estimates.

FIGURE 2

ACHIEVING RESULTS

1991 - 1995



Today's ATI

ATI's 1994 operational and program portfolio has the following characteristics:

A. Clear distinction as one of the "very few organizations"[3] across the globe involved with comprehensive rural and peri-urban micro-enterprise development for small-scale producers, farmers, and entrepreneurs;

B. An operating presence in 16 developing countries spanning three continents;

C. A value chain methodology that focuses on a limited number of strategic commodity subsectors and intervenes to maximize productivity and profitability along the full origination/processing/marketing continuum;

D. Large overall impact when compared to organizations and projects of a similar size;

E. A dramatic decrease in start-up costs per beneficiary as support programs mature;

F. Finite life cycles for all levels and kinds of project support;

G. Commercially viable client enterprises operating with no social pricing mechanisms involved in product price determination;

H. Widespread funding and collaborative partnerships to leverage ATI's limited resources and build relationships with both local groups or enterprises and international funders.

[3]The Draft Evaluation, page 2.

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ATI is a private not-for-profit development assistance corporation. Although it enjoys legal PVO status, ATI's Congressional mandate and independent Board structure make simple classification as a PVO, NGO, or quasi-public institution inaccurate. An advisory ATI Council was created in 1990 to broaden ATI's reach into relevant business, university, and private and voluntary organization spheres. The current Board/Council mix of 21 members embraces a wide, relevant, and international spectrum of public and private sector interests. (See Annex III for brief resumes of Board and Council members).

ATI Operations and Management

ATI designs its projects in collaboration with local partner organizations and funding agencies. Initiatives are implemented by either an ATI in-country office or an indigenous partner organization. In the later case, ATI's involvement varies depending upon the nature of the program and the strength of the local organization.

ATI's success in expanding and diversifying its funding has resulted in a substantial increase in its actual field presence during the past four years. Prior to ATI's transformation, all projects were funded almost exclusively by ATI and implemented by local partners. Of the 19 initiatives currently in operation, nine are now directly implemented by ATI.

ATI's management has been highly successful in both decentralizing necessary operations and consolidating others in accordance with ATI's new mission. Over the past four years, ATI has reversed its ratio of headquarters to field staff from 7:1 to 1:2. Some recent examples:

A. The Asia program has hired three local Program Development Officers to be based in the region as a replacement for one headquarters-based program development officer;

B. The Africa OILS program has hired an expatriate in Zimbabwe to serve as its Regional Director;

C. The Africa program's Senior Advisor, currently living in the United States, will be located in Arusha full time as of January, 1995;

D. Three new country offices in El Salvador, India, and Uganda were opened in 1994.

ATI's fund leveraging success under the current Corporate Agreement confirms that garnering funds for new projects is optimally achieved by Washington-based staff. Business development on behalf of ATI project partners requires staff specialization in proposal drafting and marketing, timely

access to information on donor program priorities, and a vast network of contacts, many in Washington and New York. Virtually all of these functions can be orchestrated more efficiently from ATI headquarters, when coupled with strong field-headquarters communication and effective presentations of local projects by field staff. The strength of ATI's Washington staff has allowed for field project expansion without a corresponding increase in headquarters staff size.

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II. THE CURRENT COOPERATIVE AGREEMENT (AS AMENDED)

A. The ATI-USAID Relationship

The ATI-III Cooperative Agreement signed in September, 1989, resulted in a major shift in the scope of ATI's activities from a grant-making to a project-developing institution. During the first four years of its term, ATI and USAID worked to amend the agreement to reflect their separate and, in some cases, contradictory ideas of what ATI was and what needed to be changed. The culmination of this process was Amendment 12.

This amendment was designed to update and codify a number of program and contractual changes, previous amendments, and program issues that had been negotiated and agreed by USAID and ATI as a result of the mid-term evaluation in 1993.

The draft evaluation inaccurately implies that current USAID - ATI communications are bureaucratic and confrontational, based on the now out-dated history of the early years of the organization. During the ATI-III CA, ATI and the USAID staff assigned to oversee ATI developed an increasingly cordial and collaborative relationship. The draft evaluation correctively speaks, however, of a very promising reality concerning this relationship: the close congruence of ATI's mission with that of USAID under the current Administration.

In the near future, ATI and USAID are slated to begin discussions concerning a new funding agreement. Since the draft evaluation concluded that ATI's current strategy and operations accurately reflect USAID's mandate, there appears to be a wide area of common ground on which to build.

B. Impact and Indicators

1. Production and Use of Impact Information at ATI

In 1989 and 1990, at the beginning of the current Cooperative Agreement, ATI's new management asked development experts what they saw as the future of the institution. They suggested that ATI, like the appropriate technology movement as a whole, had not achieved impact on a scale comparable with expectations. ATI assigned staff to conduct an internal review of its portfolio of current and past projects. This review, completed in 1991, distinguished between "implementation success" and "impact success". It found that the proportion of projects that could show real impact was too low, and that there was insufficient data on project impact overall.

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In 1991 and 1992, ATI redefined its strategies to reach large numbers of small-scale producers. Measuring impact became a higher priority as the goal of reaching classes of commodity producers became more important relative to the goal of designing and testing technology. After 1992, direct impact monitoring became key to ATI's program portfolio management as, for the first time, there were substantial numbers of ATI clients. Therefore, with the support and approval of USAID, ATI developed an institution-wide Impact Monitoring System (IMS), and began to implement it in 1993.

ATI and USAID agreed to include a set of impact indicators in an Amendment 12 of the Cooperative Agreement. Internally, ATI began requiring that each operating project provide impact data on an annual basis. Project staff were informed that they would be expected to meet these impact goals.

In 1994, ATI's Impact Monitoring System Report for 1993 was produced and distributed to USAID. ATI immediately began to use impact data for management decisions. For example, management is using IMS data to develop the 1995 Annual Work Plan. Impact projections have become a basic requirement for project design and approval meetings, and planned projects are compared to past performance by similar ones. Impact data are beginning to be used to guide allocation of resources among programs and regions, though the IMS is a new system and emerging patterns still need to be confirmed. Planning for the next five years is proceeding using IMS data and impact projections to weed out project ideas that are unlikely to achieve adequate impact.

2. Choice of Impact Indicators

The impact indicators in the Cooperative Agreement focus on key variables identified by USAID and ATI: numbers of people and enterprises affected, the ratio of male to female beneficiaries, economic activity and employment generated, changes in producers' technology, and environmental change. These are indicators of ATI's "immediate" impacts on producers. The indicators in the Cooperative Agreement also track ATI's success in leveraging funds and the number of institutions with which ATI works, because ATI aims to influence other institutions, as well as providing direct staff support to producers.

Most of ATI's activities also achieve "downstream" impacts such as improved nutrition or multiplier effects in the larger local or national economy. Individual projects may choose to monitor downstream

impacts if they are viewed as of particular importance, just as they monitor other inputs and outputs that are not relevant to the IMS. Both kinds of impact (immediate and downstream) are distinct from the project outputs (or "process indicators"): items that the project itself creates or buys. A training course is an output; the knowledge becomes impact when the trainee creates or expands an enterprise.

USAID and ATI agreed to focus the CA indicators on immediate (versus downstream) impact for several reasons. The impact clearly results from a project's actions; the indicators are comparable for all projects; and they require minimal, less costly monitoring methods. The comparability of indicators is essential if the IMS is to support such management decisions as allocation of resources among projects and programs on the basis of comparative success. A uniform set of indicators makes it easier to perceive the ATI portfolio as a whole, without getting lost in project detail. Both ATI and its IMS focus on impact (rather than process indicators or outputs).

Setting goals is distinct from agreeing on indicators. The goals for only one set of indicators (leveraging funds) were set at the outset of the current Cooperative Agreement, and ATI has exceeded them. Since 1993, the goals for the main impact indicators are set on a yearly basis as part of the annual work plan preparation process in consultation with USAID staff. This annual exercise corresponds to the fact that ATI and USAID are setting goals for a multi-faceted program, not a project.

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III. IMPACT AND EFFECTIVENESS OF ATI's APPROACH

A. ATI's Clients and the Small Producer Approach

ATI works with some of the poorest and most disadvantaged populations in the world. ATI's clients include small-scale producers living in degraded natural environments, remote and mountainous areas, and overpopulated areas around cities with minimal infrastructure. Integrated business development and technology interventions are key to increasing the productivity of small enterprises. Provision of credit alone often only results in transferring income from one group of small-scale producers to another, without expanding the size of the economic pie.[4]

Effective transformation of small-scale producers' economies requires addressing multiple constraints, not just having technologies manufactured by the private sector. While it is more costly to provide an integrated set of interventions, the potential economic impact is much greater than that of programs that provide only credit. The previous evaluation of ATI commissioned by USAID emphasized the importance of ATI's role:

> "The simple private sector analogy of single product development, whereby a one-time development cost is recovered by products sold, would be mistaken if applied as an overall standard here. ATI is a multi-product, multi-service development organization.... There are no single products for activities such as those performed by ATI and other PVOs. No matter how discrete, simple or well defined a hard technology may appear, its benefits are manifold. Many benefits are non-market, such as savings in women's time, increased nutritional values and increased organizational capabilities ...[5]

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[4]Andy Jeans, Eric Hyman, and Mike O'Donnell. 1990. Technology -- The Key to Increasing the Productivity of Microenterprises. Bethesda, MD: Development Alternatives Inc., prepared for USAID GEMINI Project.

[5]Ron Stegall, Peter Bearse, Diana de Treville, and Richard Solloway. 1992. Midterm Evaluation of the Cooperative Agreement (ATI-III) Between Appropriate Technology International and the Agency for International Development. Arlington, VA: Winrock International Institute for Agricultural Development, Prepared for USAID.

Since 1990, ATI has focused its program significantly. Recognizing that technology dissemination alone would not transform the economies of very low-income people on the margin of subsistence, ATI changed its program focus to: (1) apply a more comprehensive approach encompassing credit, technology, training, and marketing, and (2) target roughly half a dozen large economic classes of small producers with similar problems and opportunities across the developing world. These "strategic subsectors" included animal herders and fiber processors, oilseed farmers and entrepreneurs, diary producers, tree crop farmers, collectors and processors of non-timber forest products, and market gardeners.

What distinguishes ATI's approaches from most development programs is ATI's willingness to undertake strategies to move people and economies **toward "take-off" into a self-sustaining mode of economic activity**, building new industries in the process. The methods ATI uses to design and implement interventions (subsector analysis and business planning techniques) and our approaches to technology transfer and enterprise development can be adapted elsewhere and, over time, widely replicated.

B. The Sustainability of ATI Interventions

Most development assistance organizations, including ATI, define "sustainability" as the capacity of beneficiaries to maintain the gains they have made as a result of project interventions after external assistance has ended. In the context of ATI's program, this means that the firms, farms, and households using a technology and the assisted enterprises that manufacture it, have access to the resources required to continue operating profitably and in a manner that does not degrade the environment. Contrary to the implicit definition contained in the draft evaluation, sustainability does <u>not</u> mean that the <u>sunk costs</u> for technology R&D, training of manufacturers and users, quality control, and information dissemination in a project need to be recovered. One of the principles of microeconomics is that rational decisions on resource allocation should not consider sunk costs.

Achieving commercially viable and environmentally sound productivity gains is ATI's primary goal for <u>all</u> of its clients. The difficulties in achieving widespread commercialization of technologies are the basic problems of development and poverty. Any technology whose purpose is to add value in an integrated chain of production needs to go through an initial market testing when it is introduced to a new market and, in many cases, adaptation to local conditions and specific business requirements.

To achieve sustainability, the demand for a new technology must reach a sufficient level for profitable production and distribution. Reaching our targeted

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To achieve sustainability, the demand for a new technology must reach a sufficient level for profitable production and distribution. Reaching our targeted

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beneficiaries requires demonstrating the advantages of the technology and associated business interventions, disseminating information, and providing training and technical assistance. These activities all carry costs and the importance of exiting from them over time is well understood by ATI. As the technologies become more widely known, it is no longer necessary to invest project resources in these areas.

The interventions ATI promotes are sustainable for their manufacturers and users because they produce (or save) significant amounts of income. Manufacturers and users are investing their own resources because they expect to earn a reasonable profit in doing so. Where necessary, credit is provided on commercial terms by the project or other existing institutions. The evaluation draft recognized that the users of ATI's technologies are better off. The manufacturers are also earning satisfactory profits or else they would have stopped producing these technologies. The fact that some manufacturers who had produced multiple products before have dropped some of their other product lines in favor of ATI-introduced ones is *prima facie* evidence of the profitability of these new products.

ATI's project interventions are specifically designed to help participating entrepreneurs reach commercial viability and develop sustainable production and distribution systems for technologies and needed inputs. Figure 3 shows the prerequisites or functions needed for commercially viable manufacturing and use of new technologies and ATI's interventions in three specific cases -- the treadle pump used by market gardeners, the household stove produced by ceramicists and metal workers, and the oilseed press employed by oilseed farmers and entrepreneurs. In the figure, dashed lines are used to indicate the functions in which participating enterprises are receiving support from an ATI project, in most cases in gradually declining amounts. For these functions, the year of ATI's planned termination of this project service for all producers and users is shown. Solid lines are used to indicate those functions in which ATI is not presently intervening. In those cases where ATI had performed a necessary function in the past, but has since exited from it, the year of exiting is also shown.

In the Senegal program, ATI's assistance is currently limited to training new manufacturers and promotion of the products through demonstrations and advertising. The advertising serves a social objective of preserving the environment by reducing the cutting of trees for charcoal analogous to U.S. public service campaigns to reduce forest fires. Contrary to incorrect statements in the evaluation draft, ATI does not subsidize the manufacturing of products, act as a sales agent, negotiate prices, or train users in the Senegal program.

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In the Zimbabwe (and regional) oilseed processors program, ATI is not just disseminating a new technology, but creating a rural industry where none previously existed.

Manufacturing of the required technology (i.e. the ram press) is sufficiently complex that it requires significant initial training. In Zimbabwe, the creation of new businesses has required a range of interventions by ATI in promoting cultivation of improved oilseeds, quality control in manufacturing, serving as a sales broker between manufacturers and buyers, training press users, and training repair artisans. As noted in Figure 3, ATI will exit from these services by year 7 as a more purely commercial approach becomes feasible.

C. ATI's Approach to Technology Commercialization

Examples illustrating how ATI is moving toward commercialization in 5 different programs follow: the market gardener and household stoves projects in Senegal, the Africa Regional OILS (oilseed processors) program, the Bolivia Alpaca Fiber Producers and Processors Project, and the India Dairy Farmers Project. ATI is confident that the enterprises created and/or assisted by these programs will continue after ATI program and project support ceases. ATI is also committed to find ways that support services to small producers (such as technology delivery, product processing and marketing) are continued on a sustainable basis to an increasing number of new entrepreneurs after any project ends. Three of these programs were visited by this evaluation team. The first installment of ATI's Dairy Farmers Program was not visited because project implementation in India was just beginning. The Nepal Potato Tissue Culture project is not discussed here because, unlike the other programs, it is still in the R&D phase.

1. The Senegal Program

Since its inception at the end of 1990 with USAID/Senegal support, ATI has implemented a sustainable approach to the dissemination of treadle pump and household stove technologies through private sector channels. The steps taken by ATI in the Senegal program constitute a rational process for technology commercialization: preparation of a needs assessment and market study, selection of the initial geographic area for interventions, identification of potential manufacturers, establishment of a sales network, provision of training to manufacturers and sellers; market development through demonstrations and advertising; and follow-up.

ATI has played a catalytic role through adaptation of the technology, field testing, training of manufacturers and the provision of tooling for more rapid and accurate production. To maximize the potential for sustainability, ATI screens

FIGURE 3
FUNCTIONS AFFECTING COMMERCIALLY VIABLE MANUFACTURING AND USE OF NEW TECHNOLOGIES

ATI'S EXPERIENCE IN THREE CASES IN AFRICA

ATI's Clients ↓	Functions → Capital Investment	Raw Materials Procurement	Training	Fabrication & Wkng Capital	Product Marketing	Promotion	Installation & Spare Parts
Manufacturers							
Treadle Pump			(by year 5)			(by year 6)	
Household Stoves			(by year 7)			(by year 6)	
Oilseed Press	(by year 1)		(by year 6)		(by year 5)	(by year 7)	(by year 5)
Users							
Treadle Pump							- NA -
Household Stoves							- NA -
Oilseed Press	(by year 5)		(by year 5)				- NA -
AREAS WHERE ATI IS INTERVENING IN 1994 IN ANY OF THE ABOVE	Credit at Commercial Rates	NONE	Training Manufacturers & Lead Oilseed Farmers	NONE	Sales to Lead Oilseed Farmers	TV & Radio Promotional Materials & Demonstration	Training Repair Artisans

No Project Intervention at present

Currently receiving ATI Support (year of exit listed)

NOTES:

1. Information on year of exit listed refers to the experiences of the Senegal and Zimbabwe projects to disseminate these technologies at a national level, and pertains to the number of years since the project start date.
2. Year of exit listed represents when the type of assistance ceases to be a project component. For instance, while training one manufacturer could take only 3 weeks, the project training component for all manufacturers involved will take several years as shown above.

businesses interested in participating for their capacity to produce and market the items. Manufacturers of the stove and pump procure their own raw materials needed for production and source their own labor and equipment. Many of the participating manufacturers have hired additional workers and purchased new equipment.

The treadle pump has a market niche between the traditional rope-and-bucket system of water lifting and capital-intensive motorized pumps. Since the recent currency devaluation of 50%, few small-scale market gardeners in Senegal have purchased the imported motorized pumps due to the high investment costs, fuel costs, and repair costs. A small motorized pump cost $680 in Senegal in 1994, compared to an average of $73 for the treadle pump.

Financial analyses have shown that treadle pumps are more profitable than motorized pumps for market gardens of 0.10 to 0.66 hectares, which includes the majority of market gardens in Senegal. The treadle pump is also better than a motorized pump on environmental grounds since it does not consume nonrenewable diesel fuel and is less likely to adversely affect the water table. The alternative of large-scale irrigation projects has much higher capital costs -- $5,000-20,000 per hectare in West Africa (pre-devaluation)[6] -- and often results in serious negative environmental and public health impacts. Similarly, fuel-efficient household stoves for conservation of trees is a more cost-effective approach than reforestation projects, which typically cost more than $250 per hectare and often have seedling mortality rates of 50% or higher and take years to grow.

ATI obtained useful feedback from the pump manufacturers that led to several changes in the design and materials used: the pump cylinder diameter and metal thickness, treadle length and thickness; type of wood used; type and thickness of rubber for the valve flaps; and quality of leather for the cups. Similarly, ATI's consultant had to adapt the design of the Kenyan stove for the larger Senegalese households and locally available raw materials. Later, local project staff simplified the design to reduce costs.

Sales of all stoves and pumps are performed by the manufacturers or the sales agents they choose to work with. Delivery, installation, and training of buyers in use and maintenance has been the responsibility of the pump producers from the beginning. For stove vendors, who have very low incomes, ATI initially provided transport for their first two or three consignments until they were convinced of the marketability of the stoves. A small number of sample stoves were provided to women's groups for resale to make the new technology

[6]International Program for Technology Research in Irrigation and Drainage. 1993. Smallholder Irrigation in West Africa: Opportunities and Constraints, Priorities for Research. Washington, DC: UNDP/World Bank.

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more widely known and generate working capital for additional purchases for resale. Today, there are approximately 150 stove vendors, all of whom make their own deliveries.

The price of the pumps is set by the manufacturers, not ATI. In Senegal, the price ranges from CFAF 30,000 to CFAF 50,000 (US$ 60 to $100), depending on the costs of the individual manufacturer, type of purchase (cash vs. credit), number of pumps purchased in one transaction (retail vs. wholesale), immediate cash needs of the manufacturer, willingness of the customer to pay, sales philosophy of the individual manufacturer (high volume, small profit margins vs. low-average volume, high-average profit margins) and competition.

All stove and pump manufacturers are involved in the promotion of their products, except for television and radio commercials. While the project covered all costs associated with pump demonstrations in the beginning, manufacturers representing half the sales now cover all costs associated with the demonstrations. The rest of the manufacturers are responsible for all costs of the demonstrations, except for vehicle fuel and the time of project staff. A pump producers' association has been formed and could in the future take over all aspects of promotion and advertising. The project is scheduled to discontinue TV and radio promotional campaigns by 1997.

2. The Regional OILS Program

ATI's Regional OILS program (sponsored by the USAID/Africa Bureau as well as 10 other donors) is creating a new rural industry of oilseed processing enterprises based on the ram press, a technology designed by an ATI engineer. Projects are currently operating in Tanzania, Zimbabwe and Uganda and are expanding into additional countries. Before ATI's oilseed processing program and economic reforms, farmers who grew oilseeds typically sold them to large, urban mills, often through government-organized cooperatives or marketing boards, at relatively low prices. Little, if any, of the oil produced by these mills reached rural households, and farmers had no opportunity to add value to their crops through processing.

When ATI started its work in this subsector, a small-scale, affordable technology did not exist. ATI Engineer Carl Bielenberg invented the ram press in late 1985. After field testing, commercial production began on a limited scale in Tanzania in mid-1986. The original design cost over $1,000 and required two men to operate. A process of field testing and technology adaption then began, as is usually the case with a new technology, and lasted until roughly 1989.

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An ATI consultant modified the original design in 1987 so that it could be operated by one man, but the cost remained relatively high. In 1989, the CAPU model was developed, which was half the size and easier to make and use. It cost about $260 in Tanzania. In 1991, the CAMARTEC model, half the size of the CAPU, was developed and it sold for $125. It was only after the large reductions in price that sales began to accelerate. Both the CAPU and CAMARTEC models are still being produced and are appropriate for different levels of oil processing enterprises. ATI began replicating the interventions in Zimbabwe in 1989 and in Uganda in 1993.

One advantage of the ram press over small batch-operated screw presses is that a separate step of decortication of the seed is not necessary if varieties of sunflower seed with a soft shell are used. This saves the cost of an additional machine for decorticating the seed and labor time. Locally grown varieties of sunflower seed intended for confectionery and birdseed use also had a low oil content. Thus, it was necessary to promote the planting of an improved, open-pollinated variety and train farmers in better cultivation techniques.

In the initial stages of building this new rural industry, ATI had to demonstrate that oil pressing enterprises could be profitable. This required training people who had not previously been entrepreneurs in how to use the press and operate a business. Since manufacturers had to be shown that production of the press was profitable and that there was a sufficient market to warrant their interest, the project acted as a sales broker between the manufacturers and the buyers, using an open market tender process for purchases to avoid setting artificial prices. Repair artisans had to be trained and linked to manufacturers for obtaining spare parts. ATI developed manuals for manufacturing the press and training press owners. Today, the commercial viability of the oilseed pressing businesses is proven (see section E for information on impact achieved). This period of market development spanned 1989 to 1994, and many of the costs were one-time investments that now benefit ATI programs and those of other organizations in many countries.

Even during the period of market development, manufacturers were responsible for procuring their own raw materials without any assistance, including working capital. Only manufacturers who already had the basic equipment needed were targeted. Manufacturers repaid the cost of jigs and fixtures developed by ATI and sold through the project via a six-month loan. In Tanzania, marketing of ram presses is already occurring in the Kondoa region without any project intervention.

In Zimbabwe, plans for exiting from some interventions were delayed by unforeseeable events. In 1991/92, Southern Africa was hit by one of the worst

droughts in the region's history. While this reduced sunflower seed production greatly, this crop was much less affected than maize. In 1993, a fungal disease affected stocks of planting seed. However, conditions improved in 1994 and the project has exited from seed supply as a private company, Pannar, has taken over. The project has also exited from providing agronomic advice for sunflower as a competent, government extension service has assumed the responsibility.

In Zimbabwe, press buyers had to pay a price that covered the full production costs of the manufacturers, including profit, either in cash or through a loan at a commercial rate of interest. Press buyers also paid an additional margin that covered part of the project's costs of transporting the press and training them, and their share of these costs was gradually increased. Farmers had to purchase their own planting seed, initially from the project and presently from private companies. Press owners who did not grow seed had to purchase it on the market without project involvement in either sales or provision of working capital.

In 1993, ATI began developing new strategies for the broader commercialization of the technology in Tanzania and a similar process began in Zimbabwe in 1994 after initial manufacturing problems had been ironed out. Implementation of the new strategy in Tanzania awaited receipt of additional funding, which is expected from UNDP later in 1994. In an effort to speed up the technology dissemination process, new commercialization strategies for the Regional Oils Program were designed under the leadership of the Zimbabwe-based Oils Regional Director during the first part of 1994. These strategies will be implemented in Zimbabwe by the new local project director who has extensive private sector experience.

3. The Bolivia Animal Fiber Producers and Processors Program

The Bolivia Alpaca Project is an example of ATI's integrated approach to the establishment of centralized facilities that process raw materials produced by small producers and market the resulting products. This type of intervention is an increasingly important component in ATI's work with other products such as coffee, coconuts, cashew and non-timber forest products.

Funding and technical expertise for development of the central processing facility in Bolivia was provided by a grant from UNDP, which assumed the role of the private, corporate or commercial investor found in the developed nations of the world. The key difference is that instead of recovering a return on the investment, the international development funder allows the profits from the enterprise to remain in the country and benefit small-scale producers. Even though the funding source for the processing and marketing

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enterprise came from international public sector sources, sound principles of commercial agribusiness management are being applied in the operation of the plant.

The development efforts in this case are centered around a marketing cooperative of alpaca producers (AIGACAA). A goal of the enterprise is to channel part of the profits from the commercial enterprise into covering the costs of the services that cooperative members require to increase the quantity and quality of their animal fiber production, and the outreach necessary to maintain and expand operations.

The activities during the initial start-up phase are fully financed by the international donors' contribution. By year 4, the plant's income is expected to cover the majority of the outreach expenses, and this will rise to 75% in year 5. By the sixth year of the project, the extension and outreach costs are expected to be fully incorporated into the facility's cost structure. Under this plan, approximately 68% of the cooperative's members will be receiving services by the end of year six, and the entire membership in the remote project area will be covered by year ten. After the start-up funding has ceased, the enterprise will be sustainable and capable of independently expanding its operations.

4. Dairy Farmers

The Dairy Farmers Program is an example of ATI's work with a medium-scale facility that produces inputs for small-scale producers. In this project, regional processing enterprises owned by existing cooperative feed processing facilities will manufacture molasses-based feed supplements using an improved manufacturing technology. These supplements increase milk production to raise dairy herder incomes, and also reduce dairy cattle's emissions of methane, a global greenhouse gas. The supplements are to be sold through an innovative village-based distribution system employing women as the principal marketing agents, since the targeted buyers (local dairy farmers) are almost exclusively women.

To prove the viability of the enterprises to local banks/investors, the project will finance a major portion of the costs of establishing the first three facilities. These funds will be repaid by the local cooperatives into a revolving fund to be administered by the National Dairy Development Board (NDDB) and made available to support further plant construction in new regions. As the initial plants come into successful operation (breakeven is projected within 24 months), the manufacturing base will be expanded to 50 or more facilities over a ten-year period. The majority of the future financing will be provided from local commercial and development banks.

To launch the marketing of the supplements, the project will initially cover 80% of the marketing agents' salaries, providing this support through the local cooperatives. This stipend will be reduced each year until it is fully phased out at the end of the three-year period as sales commissions increase for the successful agents. Project support for the marketing agents will be phased out over six years, with local supplement manufacturers taking on the full responsibility for training and supporting their sales agents.

D. ATI's Overall Program Impact

ATI management measures organizational progress by carefully assessing both the magnitude of impact of its current programs and the efficiency of achieving that impact, or the ratio of ATI's costs to the economic activities generated. The draft evaluation's discussion of ATI's impact is based on its use of a measure of economic benefits that is clearly faulty.[7] The approach used in the evaluation greatly underestimates the true benefits and is at odds with the impact measures recommended by USAID in its manual for evaluation of small-scale enterprise development projects. It is also inconsistent with the accepted practice of multilateral development banks and U.S.-based PVOs.[8]

The current magnitude of ATI's impact as an institution, and the impacts of its individual programs and projects, are accurately described in the Impact Monitoring System Report for 1993 and the 1994 mid-year reports from projects. In 1993, ATI programs directly benefited more than 34,200 producers; in mid-1994, it had already reached 54,000 producers; and by year end 1995 ATI projects that it will reach more than 100,000 direct beneficiaries.

ATI's impact estimates reflect its strict definition of direct beneficiary -- producers (owners, workers, suppliers) who obtain a monetary or in-kind benefit

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[7]The error was to use the quantity of tools sold times the price of the tools as its measure of impact, rather than the present value of the stream of net benefits associated with the manufacturing and use of the technologies. The proper time horizon for this projection is the productive lifetime of our beneficiaries' gains stemming from our programs.

[8]J. Price Gittinger. 1982. Economic Analysis of Agricultural Projects. Baltimore: Johns Hopkins University, for the World Bank.

CARE. 1992. Small Economic Activity Development Module One: Evaluation Guidelines for Impact Evaluation. New York: CARE.

TechnoServe. 1989. Measuring Our Impact: Determining Cost-Effectiveness of Non-Governmental Organization Development Projects. Norwalk, CT: TechnoServe.

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from productive activity. The figures do not include individuals who are simply recipients of a project output (such as training), nor do they include family members of direct beneficiaries. Many development institutions multiply beneficiary counts by a "family factor" of five or more, and ATI direct beneficiary figures would need to be similarly adjusted to provide comparable figures.

Figure 4 shows the progression in number of direct beneficiaries from 1991 to 1995. Estimates for 1991 and 1992 are based on the number of tools in use. Data for 1993 and mid-year 1994 are from the IMS. The targets in ATI's 1995 Annual Work Plan are also presented for comparison. In 1993, ATI programs stimulated $2,937,000 in incremental gross revenues -- production or resource conservation. The mid-year estimates for 1994 show that ATI beneficiaries will earn $5,730,000 in incremental gross revenue by year end. ATI is targeting a 1995 goal of $10,329,000 in incremental gross revenue from currently funded programs. Figure 4 also shows the progression in the value of production engendered by ATI's projects. Only incremental production is shown. Thus, if a market gardener increased the area of cultivation upon buying a treadle pump, only the value expansion in vegetable production would be shown.

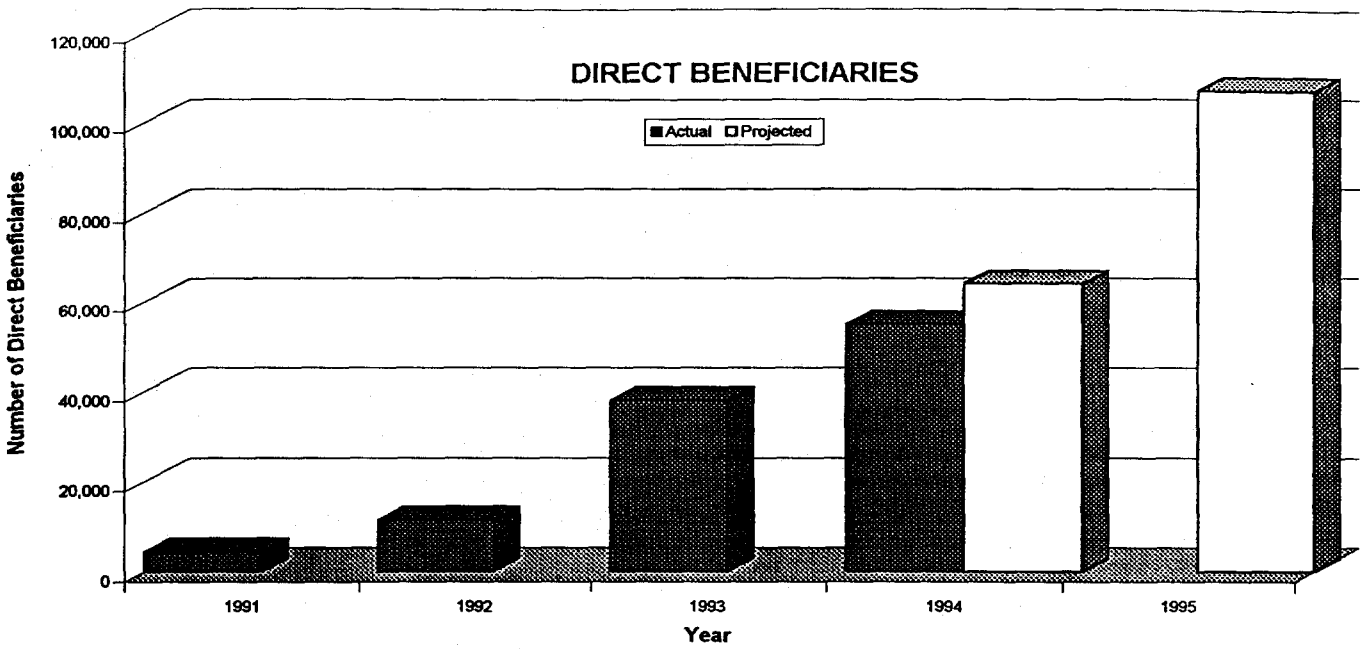
A number of ATI's programs are having considerable and increasing effects. From their inception, ATI's projects in Africa have been keeping records of tools manufactured, sold, and in use. There have been very substantial yearly increases in sales of ATI technologies over time (Figure 5).

ATI typically expects program sales to continue along the standard "S-shaped curve" of technology introduction. The draft evaluation made the mistaken assertion that the trends in tool sales by assisted enterprises have been "flat", misled perhaps by the high seasonality of the quarterly data reviewed. Many agricultural production or food processing technologies are subject to seasonal fluctuations in demand. Therefore, it is more reasonable to examine growth in annual sales than quarterly sales.

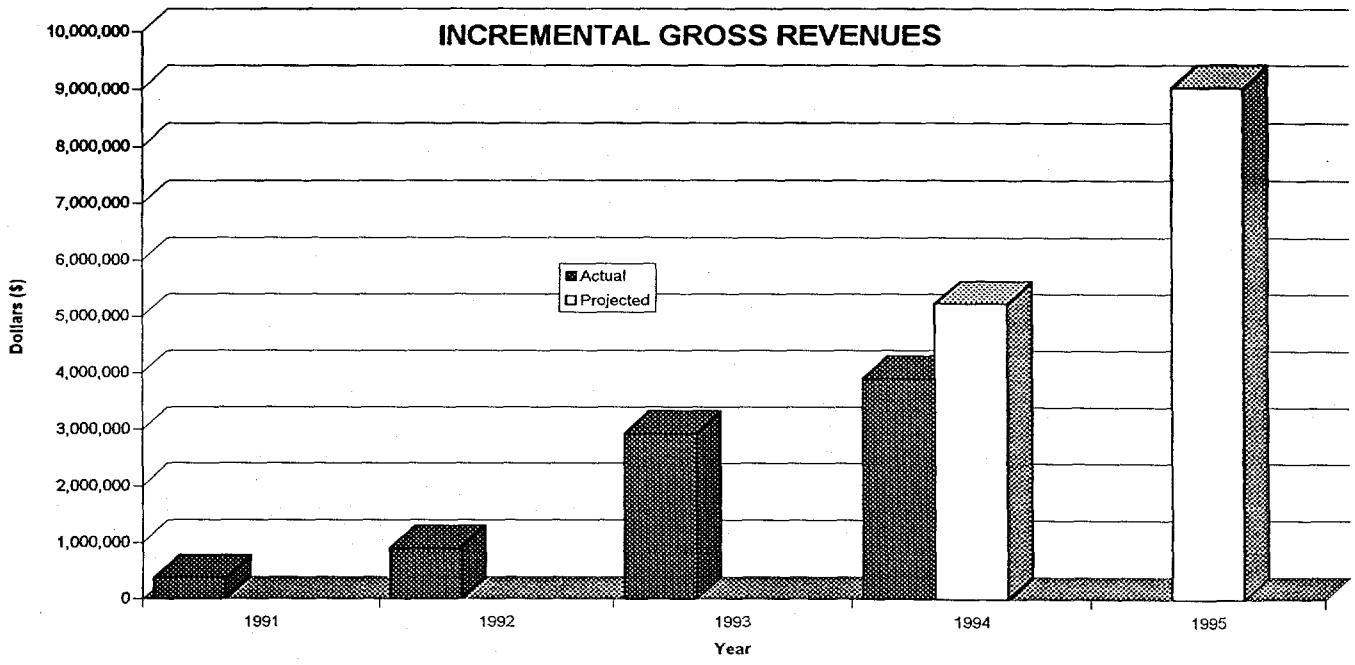
While dissemination of improved technologies is often an important part of what ATI does, it is not the whole. ATI's interventions, grounded in an understanding of the local product value chain, usually include a number of complementary measures. For example, in the Regional OILS program, the ram press is complemented by new sunflower seed varieties, credit arrangements for low-income purchasers, management improvements, and other measures. Another of ATI's activities, the Bolivia Alpaca Fiber Production and Processing Program, uses a very different method to achieve its considerable and expanding impact. Its critical element is a farmer organization that opened a new marketing channel. This is complemented by such

Expanding ATI's Impact
1991 - 1995

Figure 4



ATI strictly defines direct beneficiaries as owners of an enterprise or a tool, workers, and suppliers of raw materials for processing. These figures do not reflect a multiplier based on a factor representing family size or broader economic impact.



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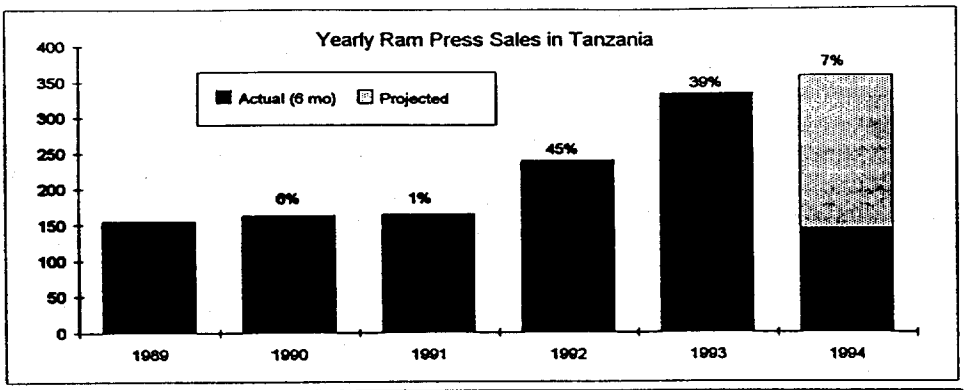
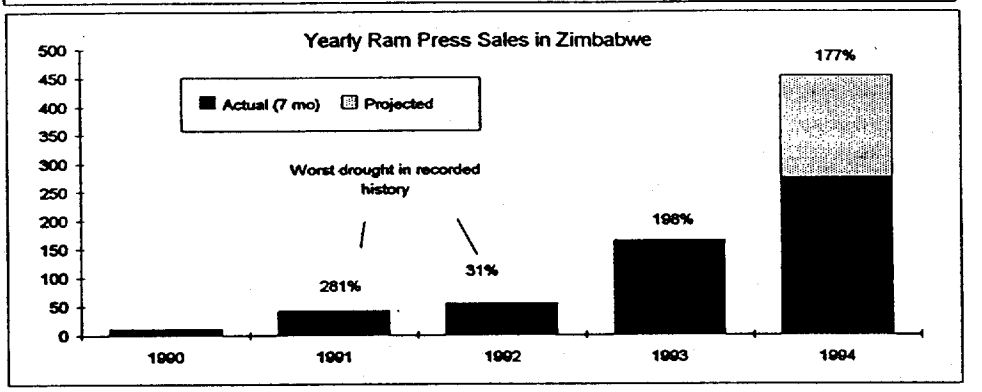
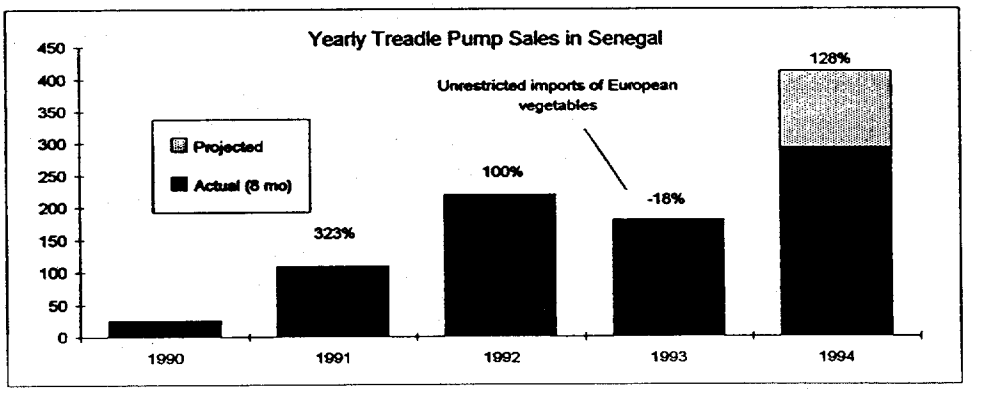
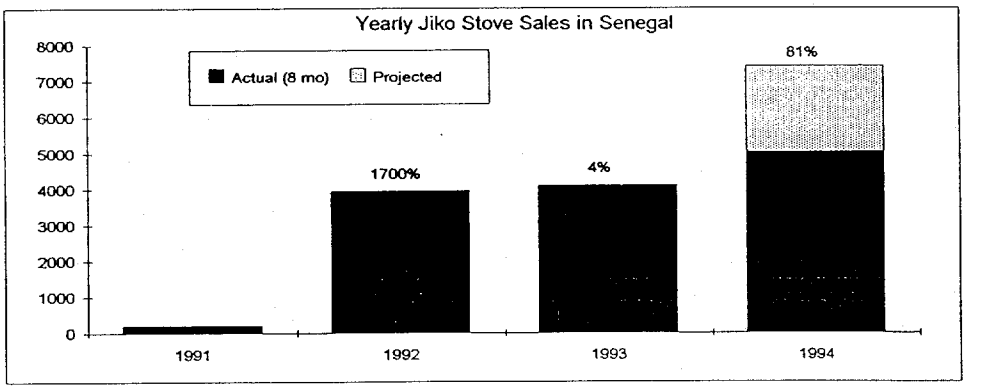
Yearly Increases in Sales of ATI's Technologies

Figure 5









Column percents show increase over previous year.

interventions as better pastures, irrigation, veterinary care, and new alpaca breeds.

Because of the integrated nature of ATI's interventions, the value of tools put into use is just a small part of the impact that ATI achieves. In 1993, client enterprises invested about $366,567 as part of project-assisted activities; but their incremental gross revenues earned exceeded $2,937,000, a ratio of about 8:1. While both the evaluation and ATI are concerned with the ratio of project costs to benefits, ATI's effectiveness must be measured against the real and very substantial economic activity it engenders (plus social equity impacts), not simply against an artificial valuation of tool sales.

E. Examples of ATI's Impact in Specific Projects

Some examples of the impacts that have been achieved in some programs discussed in Section D are shown below.

The two main technologies promoted by the Senegal project and commercialized by local manufacturers or their designated sales representatives, the treadle pump and the ceramic lined household stove, will result in the following user impacts over the lives of those products already sold through June 30, 1994:

- $750 of annual per capita income increases for 760 pump users (aggregate impact $3,450,000)

- $110 of annual average expense savings for 11,800 households (aggregate impact $2,560,000).

In addition to user benefits, the manufacturers have increased their net incomes from the production and sale of these new products. These benefits include:

- $50,000 in net income gains to 14 treadle pump producers, or a per manufacturer increase of $3,500;

- $45,000 in net income increases to 30 stove manufacturers, resulting in a per producer gain of $1,500.

The treadle pump component yields a benefit/cost ratio of 5.65. This benefit estimate is conservative because it does not include the benefits from repeat purchases of the pump after the initial pump is worn out either during or after the project.

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The benefit/cost ratio for the stoves component is 3.6 (based on monetary benefits of $2,605,100 and costs of $642,000). This benefit estimate is conservative because it does not assume that owners of improved stoves will replace them with stoves of the same type, which is likely to be the case. It also does not include the external benefits of the favorable environmental impacts of saving trees. While these benefit/cost ratios in the Senegal program are impressive, they become even more favorable over time as sales increase and marginal project costs decrease.

In the oilseed processing program, the following returns are representative of typical enterprises:

- On the average, ram press owners net $400 per year in Tanzania and $380 per year in Zimbabwe. Service pressers, who rent the use of the machine and often come from low-income groups, net $240 annually in Tanzania and $70 in Zimbabwe. These figures are substantial in countries where average per capita incomes are $123 and $580, respectively.

- In Zimbabwe, marketing agents are making a profit of $11 to $60 on the sale of each press, depending on their location, the press model, and the manufacturer from whom they purchase.

- A typical Zimbabwean artisan manufacturing an average of 90 ram presses earns $3,000 in profit annually. (Each unit is sold for an average of $150 and has a total production cost of $115, resulting in a profit of $35 per press.) The total benefits from the oilseed processing projects are not the product of the 1,623 oil presses sold to date and their cost of $125-250 each, but the present value of all of the income generated per press (to press manufacturers, press owners, service pressing customers, hired workers of manufacturers and pressing enterprises, and oilseed farmers) for the 5-10 years of the press life. Furthermore, the net benefits over the life of future replacement presses can be attributed to ATI's original interventions as well.

The estimates of benefits from the press are also conservative because they exclude: (1) the health and nutrition benefits to consumers; (2) the environmental benefits from reduced use of diesel fuel or electric power in edible oil production; (3) a reduction in energy used in transporting oilseeds to urban mills and oil back to rural consumers; and (4) the foreign exchange savings from reduced imports of edible oil. Moreover, the number of oil presses sold is continuing to increase and this should also be factored into the analysis.

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The Bolivia program is benefiting more than 2,000 families producing alpaca fiber, whose annual income has gone up from an average of $300 to $950 (more if they have chosen to be stockholders in the enterprise). Furthermore, the project's benefit/cost ratio is highly favorable. For an investment of $4.5 million, annual product sales of U.S. $1,600,000 will be produced for many years to come. Moreover, 65% of the annual sales will accrue directly to the alpaca-producing families. This investment will bring in additional foreign exchange earnings for Bolivia and generate income and employment for very low-income people.

ATI agrees that front-end investments must be made in the start-up of any development program, but the assertion that in any of these cases subsidies need to be provided indefinitely for the private sector to continue production and sales is incorrect. The front-end investments that have been made to date are amply justified by the substantially greater value of the economic benefits that have already occurred as a result, and those limited investments that are continuing can and will be phased out.

F. Efficiency of Impact

Each ATI project incurs start-up costs to achieve the impacts discussed above, particularly to make newly introduced ATI enterprise development systems appropriate for women and other low-income producers. Several projects have reached the point where such costs are now minimal.

The draft evaluation raises several issues relating to efficiency -- impact vs. expenses, subsidies, size of headquarters operations, and others. Annex V of the draft evaluation suggests a method to look at these issues globally, but these measures were not applied -- how much was spent by ATI worldwide, how many beneficiaries were reached, the ratio of cost to benefits, and the cost per beneficiary. The following discussion applies to these indicators.

The necessary data come from the ATI Impact Monitoring System (IMS) from 1993 onward and project records for 1991 and 1992. Those data establish that global cost per beneficiary and the ratio of expenditures to benefits have fallen sharply since 1991.

Since the beginning of the ATI-III CA period, overall expenditures have declined by a factor of 6. Cooperative Agreement expenditures per beneficiary have declined from $701 in 1991 to $62 in mid-1994 and are projected to decline further to only $39 in 1995.

Figure 6 shows the trend in the cost per beneficiary and the ratio of ATI's costs in a year to the benefits occurring in just that year. **It is important to**

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note that this presentation does not represent a full cost/benefit ratio analysis, because, while all initial costs have been included, no measure of the future benefits that will occur from tools sold has been included. To do so would increase the benefits substantially. The resulting calculations, although not conducive to year-to-year comparisons, would dramatically reduce the final program-wide cost/benefit ratio. It is for this reason that development projects typically use 10 or 20 year projections to evaluate investments since costs are initially higher than benefits until a breakeven year.

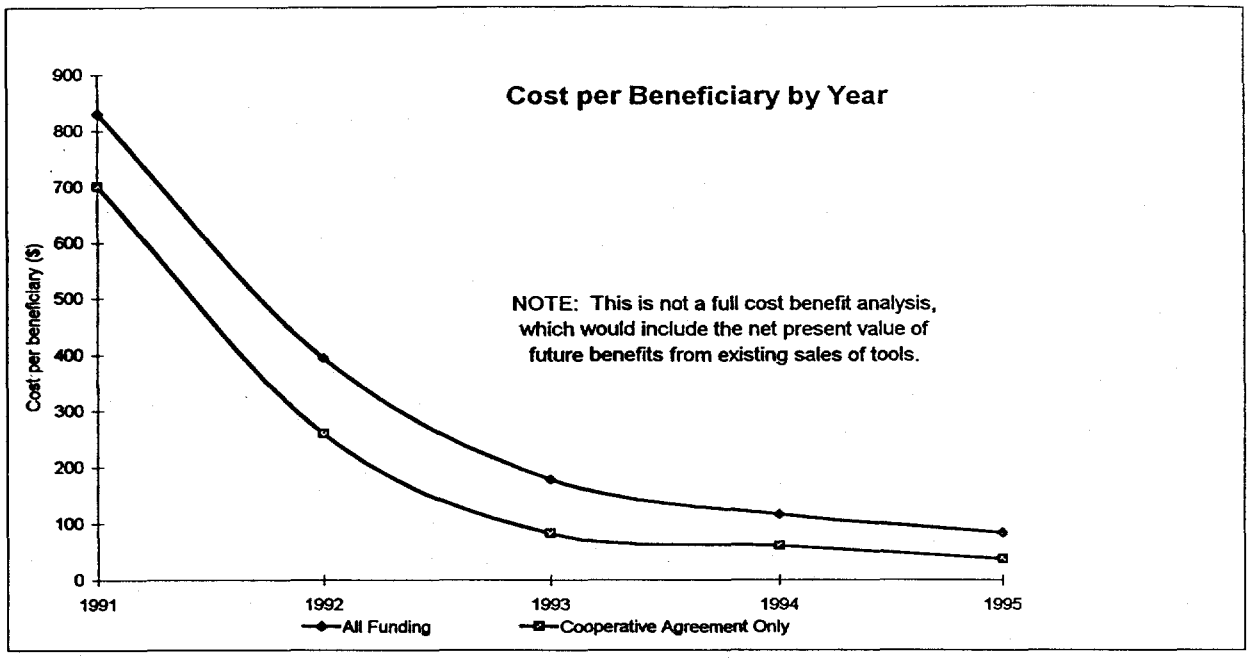
For ATI, direct financial benefits received by clients in that year alone exceeded Cooperative Agreement costs in 1993 and are expected to exceed all costs from any funding source by 1995. The ratio of costs to benefits in the year has declined by a factor of 7 from 1991 to 1994. These statements restrict "benefits" to the gross value of incremental production, without giving a monetary value to many secondary benefits achieved, while costs refer to all of ATI's expenses.

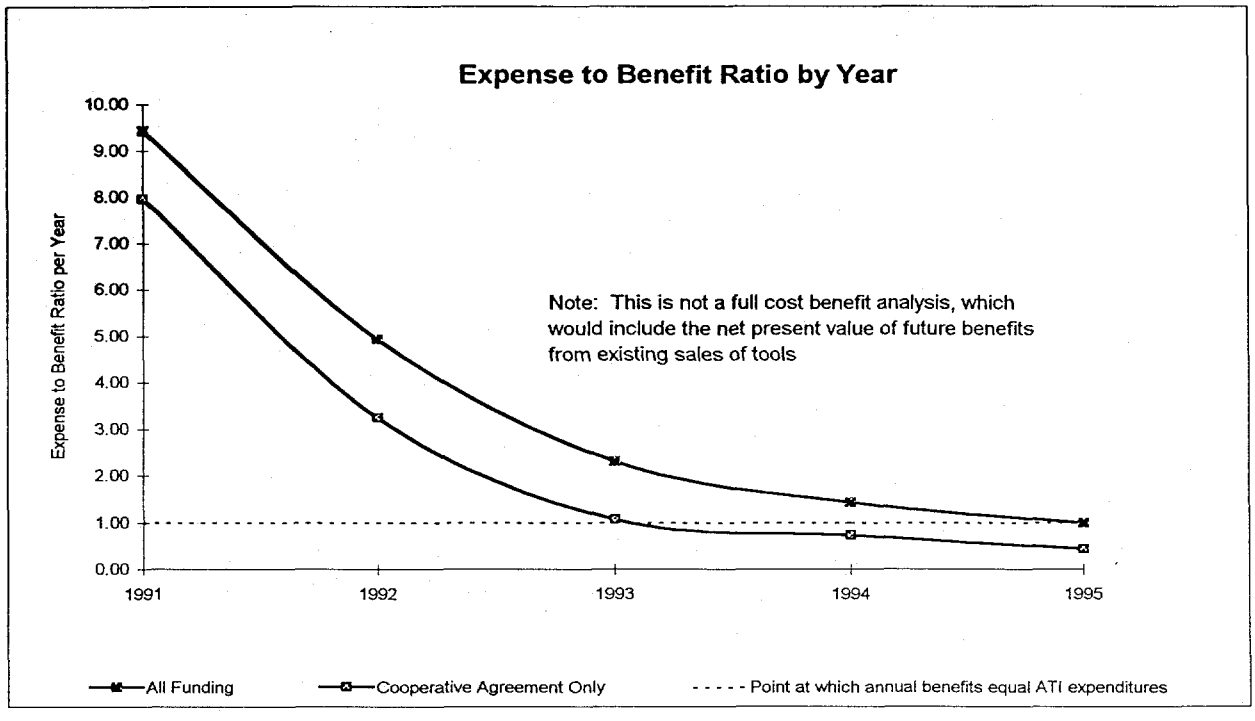
One method of capturing the lifetime program value of ATI-supported interventions is to calculate an Internal Rate of Return for the entire ATI-III program period. Even if all of ATI's activities were to cease at the end of 1995, the continuing use of its technologies already in producers' hands would give USAID a significant, positive rate of return on its expenditures under ATI-III. With conservative assumptions about the future use of existing tools, and the same narrow measure of direct benefits described above, the Internal Rate of Return for the period of ATI-III activities (including all headquarters expenses) is 29% (on the entire Cooperative Agreement investment in ATI). Counting all funds leveraged from every source, the program-wide IRR is 13%. Even the lower of these rates is acceptable for an agricultural development project by World Bank standards. Perhaps the most import conclusion of the entire analysis is that, given the dramatic trends seen in Figure 6, ATI is convinced it can significantly increase the IRR further in future years.

ATI's mandate also charges it to focus directly on issues of social and gender equity. About 40% of economic benefits from ATI activities already accrued to women in 1993. ATI is actively seeking to increase the outreach to women and other disadvantaged groups, while recognizing that this commitment to equity can increase project costs.

Trends in Cost and Expense Per Beneficiary

Figure 6





G. Comparison with the Experiences of Other Organizations

ATI's concept of monitoring impact on a yearly basis is similar to that of USAID missions in Africa, where it is called the "Assessment of Program Impact" (API). ATI's efforts in implementing an Impact Monitoring System contrasts with published reports from a dozen missions in 1992/1993 in that they did not provide any quantitative agriculture-sector results, and none of the reporting missions presented consolidated costs/benefit data. Moreover, ATI has gathered data for all major projects in a consistent way, while most API's only report disaggregated results from several separate projects. Among the missions reporting impact, USAID/Botswana (1993) reported 230 families benefiting in the Kuru program; USAID/Chad reported 799 agricultural adopters in 1991 and 1,252 in 1993; USAID/Guinea counted several hundred people trained; USAID/Lesotho estimated that 6 percent of the country's rangeland was under better management, affecting 17,000 people; USAID/Niger reported 22,000 participants in all private sector activities.

The cost per beneficiary family of World Bank projects with comparable interventions provides another benchmark for ATI programs. The range for irrigation projects is between $200 and $2,000 per family. Rural development projects cost $5,200 per family on the average. Agricultural credit projects cost $880 to $9,250 per subloan. On the other hand, contact by an agricultural extension agent costs only $10 per beneficiary family. At a current cost/beneficiary family of roughly $100, ATI programs already compare favorably with those of IBRD, and ATI program costs are clearly trending downward, dramatically in its established programs. Other NGOs that are judged successful, like Technoserve and FINCA, have costs per beneficiary comparable to those of ATI, and some have considerably higher costs. Thus, while ATI has already begun to achieve important gains in its new program strategies, the trend indicates strong prospects for further increases in impact and efficiency.

H. ATI's Major Programs Are Well Beyond the "Pilot Project" Phase

Between September 30, 1983 and September 30, 1989, under its previous cooperative agreement with USAID, ATI was tasked with doing experimental, pilot types of activities funded by small grants. The expectation that others would replicate these programs after the commercial viability of the initial enterprises would be demonstrated proved incorrect. Informed in part by this unsatisfactory prior experience, ATI recognizes that demonstration projects are not enough; a carefully designed dissemination plan is necessary to go beyond the pilot stage.

Under the ATI-III CA, USAID asked ATI to change to a demand-driven mode and diversify funding beyond central USAID resources as the major new thrust. This CA did not request ATI to abandon "pilot" projects, although it did imply that ATI should expand its impact. ATI concurred, since it was committed to increasing its impacts as part of its corporate mission.

According to the conventional definition of a pilot project[9], ATI's regional programs for expansion and replication of earlier activities are not "pilot" programs, because they are already providing direct economic benefits to a substantial and rapidly growing number of people. ATI's regional oilseed program that has sold over 1,747 oil presses and the Senegalese fuel-efficient stove program that has reached nearly 12,000 consumers in only three years are well beyond what would be conventionally termed a pilot project by most development professionals.

The experience in Senegal is following a similar approach to that recorded in the USAID-funded Kenya project (viewed by the draft evaluation as a successful model), which began in 1981. In the first 2 1/2 years of the Kenya project, 13,000 stoves had been sold; this is comparable to ATI's achievements in Senegal to date. The number of stoves sold in Kenya rose to 66,000 after 3 1/2 years and 125,000 after 5 1/2 years.[10] Now, over 13 years since the first design of the Kenya stove, reportedly some 500,000-800,000 have been sold through private sector channels.

The only material difference between the two experiences is the amount of time elapsed since the inauguration of the program. Both projects required training of manufacturers, creating consumer awareness of the product's value, field testing, and quality control. In both countries, the ceramic-lined stove is more costly than the traditional all-metal stove because of higher raw material and labor costs, but the payback period for consumers is very quick due to the savings in purchased charcoal. Most outside observers familiar with the ATI program expect a comparable S-shaped curve of stove sales in Senegal, although the rate of sales growth may be slower in Senegal because the stove's price is greater there, due to higher wage rates and less competition in the medium-scale ceramics industry.

This S-shaped curve in acceptance of new technologies is a common phenomenon -- slow at first and then rising rapidly at an increasing rate once

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[9]A pilot project is a "tentative model for future experiment or development" according to the American Heritage Dictionary, 1991

[10]Eric L. Hyman. 1987. "The Strategy of Production and Distribution of Improved Charcoal Stoves in Kenya." World Development 15: 375-386.

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the take-off stage is reached, and then slowing as the market becomes saturated. As long as private sector manufacturers are producing a technology at an acceptable level of profit (and it is clear that they would not continue to produce if this were not the case), the technologies they are employing are in fact commercially viable, and hence sustainable.

The draft evaluation finds that ATI has been successful in selecting technologies that can produce significant improvements in productivity, provide new opportunities for increasing value added for rural producers, save natural resources, and reduce pollution. ATI's successes in this regard are no small accomplishment and are a result of the organization's ability to identify opportunities for helping targeted clients to achieve real economic benefits and overcome constraints. ATI is also aware of the many challenges associated with managing and advancing this process of change. Experience has shown that any type of effort in support of low-income producers and micro-entrepreneurs takes time to reach full sustainability.

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IV. FINANCIAL INITIATIVES AT ATI

A. What Constitutes Leveraging?

The draft evaluation praises ATI's fund leveraging performance. In fact, ATI far surpassed the fund raising and diversification goals of the ATI-III Cooperative Agreement. The draft evaluation provides a basic definition of the leveraging concept. This section provides further clarification regarding the use of this mechanism and its impact on both ATI and its programs in the field.

At Congressional direction, USAID provided leveraging funds to ATI through a separate $2 million grant to operate concurrently with ATI's Cooperative Agreement. Its purpose is to increase ATI's capability to involve a variety of donors in scaled-up program activities -- and thereby influence their programming as well. Leveraging has enabled ATI to multiply its impact at a time when USAID core funding levels have remained relatively static. The chart below demonstrates that for each leveraging fund dollar ATI has brought to the table more than $13 for program implementation resulted.

Ratio of Leveraging Grant Contribution to Funds Provided by Donor Partners

Direct Leveraging	Instrumental Leveraging	Total Leveraging	ATI Leveraging Grant Contribution	Ratio - Leveraging Grant to Funds Received
$12,368,318	$9,513,756	$21,882,074	$1,615,413	1 to 13.55

ATI classifies the kinds of leveraging funds received from other donors in one of two ways:

Direct Funding or Instrumental Leveraging

- Direct funding represents funds provided by donors for defined program purposes that come directly to ATI and are processed through ATI's financial accounts.

- Instrumental leveraging represents funds provided by donors for defined program purposes that do not go through ATI's financial accounts but are supported by a Memorandum of Understanding (MOU) or other contractual arrangement between ATI and the organization receiving those funds.

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The following five examples illustrate the ways ATI negotiates the use of leveraging funds:

1. Direct Funding: ATI receives funds directly from a donor which may or may not require a match from ATI's leveraging fund and which are meant to carry out a program activity. An example of this is the Environmental Protection Agency-sponsored country feasibility studies on Dairy Farmers, or the Market Gardeners program sponsored by USAID/Senegal.

Donor	Direct Funding	Instrumental Funding	ATI Leveraging	Total Project Funding
EPA	$212,108	$0	$0	$212,108
USAID/Sen	$1,097,401	$0	$199,886	$1,297,287

2. Instrumental Leveraging: ATI influences a donor organization to finance a field program by granting funds to a local implementing organization, but no funds come to or pass through ATI's financial accounts. An example of this is the International Development Research Centre-funded Resource Poor Farmers Rhizobium (crop inoculant) Processing project in Asia.

Donor	Direct Funding	Instrumental Funding	ATI Leveraging	Total Project Funding
IDRC	$0	$183,969	$20,000	$203,969

3. Direct and Instrumental Funding Combination: ATI receives funds directly from a donor and also influences a donor organization to grant funds directly to a local implementing organization. An example of this is the Coffee Processing project in El Salvador, in which ATI is receiving funds for the technical assistance portion of the program, while the local cooperatives receive funds directly both from the Inter-American Development Bank. ATI may or may not provide leveraging funds in this case - in the following example, it did.

Donor	Direct Funding	Instrumental Funding	ATI Leveraging	Total Project Funding
IDB	$300,000	$1,000,000	$80,000	$1,380,000

4. Exclusive Use of ATI Leveraging Fund: ATI contributes leveraging funds towards a feasibility study to review a program concept in a preliminary stage of development to determine whether it is feasible or attractive to other donors. An example would be the Resource Poor Farmers Potato Tissue Culture Initiative in Nepal. ATI is the sole contributor in these cases.

Donor	Direct Funding	Instrumental Funding	ATI Leveraging	Total Project Funding
na	$0	$0	$64,060	$64,060

5. Direct Funding for a Service: ATI receives funds directly from a donor which require no ATI leveraging fund contribution and are in effect a payment for a service. Typically, the service has the potential for identifying new or expanded program opportunities. An example of this structure is a Program Officer's participation in an International Fund for Agricultural Development-funded mission to Zambia studying oil seed processing for which ATI earns a fee.

Donor	Direct Funding	Instrumental Funding	ATI Leveraging	Total Project Funding
IFAD	$22,291	$0	$0	$22,291

These examples demonstrate a range of possibilities available to encourage donors to participate in ATI program activities. In some cases, ATI accomplishes this goal with a minimal cash contribution. An extraordinary example of this is the India Dairy Farmers program sponsored by private energy and utility companies, in which ATI's contribution is only 2% for a 13 year project (shown below).

Donor	Direct Funding	Instrumental Funding	ATI Leveraging	Total Project Funding
AES/TAU	$2,769,937	$5,652,340	$229,267	$8,651,554

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B. Flexibility of the Leveraging Fund

As demonstrated above, leveraging offers ATI flexibility to meet donors' concerns and needs, thereby encouraging higher levels of donor support. Through leveraging ATI offers to share in the risk of funding new program activities, making a contribution which renders it a more credible partner, and perhaps funding certain components that other funders would be unable to support.

The USAID - ATI leveraging grant reserves up to $200,000 of the $2 million (10%) for ATI to support small grants (fully funded by ATI) for new technologies and short-term demonstration efforts or market assessments (see 4 above), as well as new concepts that donors may believe worthy but find too risky to fund initially. Experience has demonstrated the potential of this approach and increasing the amount reserved for this use should be considered.

Instrumental leveraging helps ATI in areas where donors are reluctant to give funds to a U.S.-based organization - i.e., the Asian programs of some major foundation donors. Investing resources in instrumental leveraging is also consistent with ATI's goal of assisting in the strengthening of local organizations. If there is a local organization capable of taking the lead in the implementation of a program, ATI can limit its role to that of provider of technical assistance and fundraising support. ATI can also use leveraging funds to facilitate grants to local implementing organizations which can have large impact. The use of program funds to win instrumental leveraging has a price - these funds do not provide overhead to ATI itself. However, if the value of the instrumental leveraging funds obtained far exceeds the commitment of program funds, the investment can be considered justifiable in terms of its client benefit impact.

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C. Success of the Leveraging Fund

There are two important indicators which demonstrates ATI's leveraging success:

1. ATI MET THE ESTABLISHED PERFORMANCE GOALS

The CA sets performance targets for the total amount of leveraged funds. This leveraging target was to match every dollar received through the Cooperative Agreement with one dollar from another donor source of funds, approximately 50 cents of which is to be in direct funding and the remainder in instrumental leveraging. ATI has exceeded these targets, as demonstrated in the following table.

AS OF JUNE 30, 1994	Direct Leveraging	Instrumental Leveraging	Total Leveraging
TARGET	$ 7,925,000	$ 7,925,000	$15,850,000
ACCOMPLISHMENT	$12,368,318	$ 9,513,756	$21,882,074

GOAL EXCEEDED BY 40%

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2. DONORS WANT TO REINVEST WITH ATI

In assessing the leveraging concept, the draft evaluation noted, "With its own resources, ATI has something to offer multi-lateral donor organizations, foundations, USAID missions, etc.". One indicator to determine popularity of a product offered by any organization is to measure the number of "repeat customers". The chart below demonstrates that 14 long term donors have reinvested in ATI's programs at least twice. Indeed, one donor reinvested nine times over the term of ATI-III! Their total reinvestment amounts to $8.879 million, almost 41% of the $22 million received from donors outside the CA.

Donor Reinvesting More than Once	Direct and Instrumental Leveraging	Total Project Funding	Number of Activities Funded
UNDP	$4,096,621	$4,847,168	4
IDB	$1,330,000	$1,410,000	2
USAID/Senegal	$1,097,401	$1,619,973	2
IDRC	$ 415,459	$ 723,429	4
U.S. EPA	$ 296,509	$ 262,071	2
UNIFEM	$ 277,958	$ 349,958	4
Ford Industry Campaign Against Hunger	$ 260,000	$ 262,570	2
IFAD	$ 258,099	$ 265,599	9
USAID/WID	$ 224,790	$ 642,600	5
ROCKEFELLER	$ 177,392	$ 227,999	2
USAID/MALI	$ 175,989	$ 199,989	3
AFRICA NOW	$ 141,590	$ 316,425	2
FORD FOUNDATION	$ 83,000	$ 103,700	2
Biodiversity Conservation Network (BCN)	$61,835	$291,928	2
TOTALS	$8,896,643	$11,523,409	45

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In summary, the draft evaluation states that the leveraging fund as a programming instrument is "inspired" and that USAID may wish to expand funds available to ATI for leveraging. Given the current pace of leveraging commitments and pending requests for future leveraging fund support, ATI can clearly demonstrate an increasing need for additional leveraging funds.

D. Need for Program Development, Support and Evaluation Costs: The Issue of Institutional "Sustainability"

In spite of its power as a tool for multiplying development funding impacts, the leveraging concept will not work without funds for program development, support and evaluation. This is particularly the case in new business development phases of ATI's activities - including the amount of staff time and travel costs required for meeting with donors, negotiating and exploring possibilities for funding. In essence, the core funds used to finance these activities create the fulcrum upon which ATI's leveraging successes rest.

The "sustainability" of the client enterprises which ATI assists is a key element in defining the eventual impact of ATI's programs, as has been discussed in Section III above. Since not-for-profit development organizations exist only to serve their clients, they should not seek to expand their own activities in the absence of established and improving effectiveness in delivering productive, cost-efficient support to needy people in target markets.

For this reason, ATI has consistently sought to maximize the beneficial impact of its programs, particularly per dollar of USAID core funding. ATI's successful leveraging efforts help achieve this goal, multiplying funding for programs congruent with USAID's current mandate for every dollar of direct USAID allocations received. Similarly, ATI continues to improve its cost recovery from all donors, an improvement which will grow in the future with the expanding impact of the new, tighter recovery requirements in ATI's project funding arrangements. More recently, ATI has begun to charge management fees in a certain number of its contracts, particularly where there is an enhanced degree of either financial or programmatic risk. Management fees received are unrestricted; such funds will help build ATI's unrestricted funds balance over time, as the mid-term and the draft final evaluation recommended.

These and other programmatic efficiencies are <u>necessary</u> conditions for the optimal operation of a development assistance organization like ATI, but they are not <u>sufficient</u> conditions to render the organization self-financing, a fact recognized by USAID's 1993 Program Evaluation Summary. It states that:

> "...if sustainability is defined as funding independence, the definition is not appropriate for development organizations like

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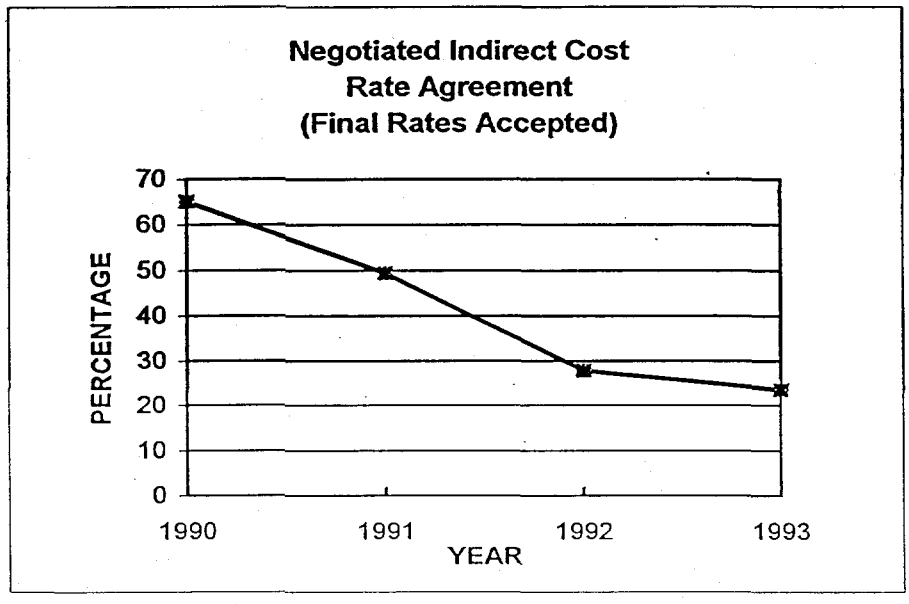
ATI, which have an equity mission. The basic reason self-sufficiency is inappropriate is because program development costs are a continuing, basic function of ATI's goals and objectives, not simply an up-front or time-limited cost which is not borne again. Such costs are repeated as ATI works with new organizations, develops new approaches to disseminate hard technologies, continues to adapt technologies of all types in different contexts, assists NGO's and provides benefits to the poor in low-income countries... ATI will require core financial support to help fund the continuing need for technology adaption and dissemination, and institution building that constitutes ATI's basic activity." (p. 5, para. 4)

ATI's commitment to its development mission today drives the organization to maximize support to its clients with the resources available to it. This commitment is manifested in ATI's successful leveraging initiatives, in its ongoing diversification of funding sources and in its increasingly rigorous cost recovery efforts. As a result of all these efforts, ATI's operating efficiency as measured by its approved overhead rates has improved significantly over the period of the current CA, as the chart below demonstrates.

Figure 7



This same commitment assures USAID that ATI will both continuously seek new and innovative funding sources to augment its resource base, and that it will strive to employ its existing resources as efficiently as possible. Given these commitments and the progress which ATI has been acknowledged to have made

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by the mid-term evaluation, the draft final evaluation, and several independent USAID field program reviews, ATI believes the issues of future USAID resource allocations is best considered in terms of the congruency of ATI's capabilities with USAID's current missions and objectives.

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V. ATI'S RESPONSIVENESS TO MID-TERM EVALUATION RECOMMENDATIONS

USAID's 1992 mid-term evaluation of ATI, like all good evaluations, was a valuable learning experience for ATI. ATI has reacted promptly and professionally to the reviewers' recommendations. The draft of the 1994 evaluation found that ATI has already made significant progress in responding to the 80% of the mid-term recommendations which were mutually agreed. This level of compliance is particularly impressive, since the mid-term review was only finalized 10 months prior to the commencement of the final evaluation. This prompt response was possible because the majority of the mid-term review's recommendations had already been identified by both ATI management and its USAID counterparts as advantageous steps, prior to the completion of the review process.

Upon the completion of the mid-term evaluation, USAID issued its final Project Evaluation Summary (PES), which identified 5 key "action decisions" for ATI (or ATI and USAID together) to complete. As of the date of the 1994 evaluation draft, 4 of the 5 action steps have been completed to the satisfaction of both USAID and ATI, and one was rendered redundant. The 4 completed recommendations are:

1) USAID and ATI amended the current CA and agreed that the objectives of the CA are measurable and appropriate;

2) USAID and ATI agreed upon specific performance indicators for the amended CA ;

3) USAID and ATI agreed upon the format for a semi-annual progress report, which was included in the CA Amendment and has now been utilized by ATI for its 1994 semi-annual report;

4) ATI has developed and installed the first phase of an USAID-approved project and management information system, and progress continues in the finalization of the overall MIS[11].

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[11]In the case of this last recommendation, ATI management determined with the concurrence of USAID that the development of a full fledged MIS program could only proceed following the inauguration of ATI's impact monitoring system, since impacts (variously defined) represent the most important single measurement of the success of ATI programs. With ATI's Impact Monitoring System now fully operational, the ground work is in place for the design and installation of an appropriate MIS. This task is now scheduled for 1995.

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The fifth action recommendation, an interim 2-year extension of the current CA, was superseded by USAID's decision to call for the early review of ATI's progress under the CA, which triggered the draft final evaluation.

ATI agrees with the 1994 draft evaluation that several of the mid-term review's other recommendations merit continued consideration. For example, ATI's business strategy and mission require it to continuously assess its efficiency in reaching targeted program areas. For this reason, and to sharpen the organization's operational focus, 60% of the program areas under which ATI was active in 1989 had been eliminated through a careful program review by 1993. The 1993 group of 9 program areas are likewise under review, and the 1995 Work Plan is likely to see a further contraction to 6 or 7 high-priority program areas.

Similarly, ATI management found the process of developing a 5-year plan a rewarding and productive exercise. Today, ATI is just past the mid-point on the 1992-96 plan, which is still an active guide. In the last two years, senior staff attention has been focused on the restructuring and potential for ramp-up of the ATI program, on producing other major written outputs and on the support of the final evaluation process. A revised 5-year plan is now in preparation and is due for completion before the end of the year.

Finally, the mid-term evaluation suggested, and the draft final evaluation agreed, that a multi-year operating budget/funding cycle could both improve ATI's ability to plan for its ongoing activities, and reduce the level of administrative oversight required by USAID. ATI concurs, and is in the process of developing such a budget for USAID consideration.

VI. FINANCIAL MANAGEMENT AND ACCOUNTING

The draft evaluation noted that ATI's financial management and accounting systems are well designed and managed by a small, highly professional staff. A modern non-profit accounting system is supported by a current state-of-the-art PC network. Further, ATI is current with all donor audit and financial reporting requirements for both Washington and field activities, including the A-133 audit for 1993. ATI is committed to maintaining this level of excellence.

A vital ingredient to the success of decentralizing program responsibility and authority to the field will be the efficiency and effectiveness with which financial information and data moves between Washington and the field offices. ATI has the talent and system base to provide the necessary support required to first bring ATI on-line with all its field and project locations, and subsequently, bring field and project locations on-line with each other.

ATI will be challenged to develop the range of standardized reporting formats and guidelines required to support the continued pace of decentralization. In this regard the draft evaluation defines the motivation - "The existence of a standardized reporting format encourages designers of future activities to undertake projects that have broad, measurable impact affecting large numbers of people and are more than simple technical innovations."

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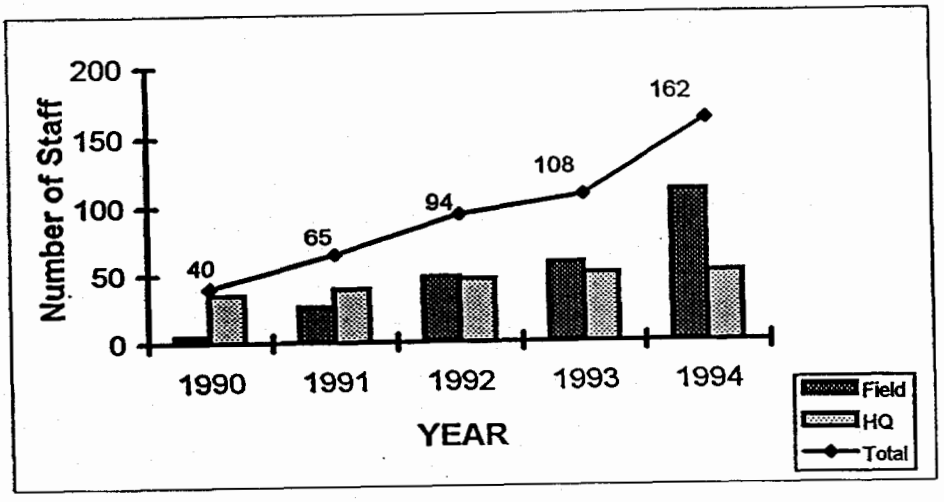
VII. ATI'S CAPACITY TO ABSORB ADDITIONAL FUNDING

In the last two years of the Cooperative Agreement, ATI's leveraging strategy has begun demonstrating dramatically the efficacy of this approach to securing funding for program activities. Simultaneously ATI restructured and added important new capabilities to the Washington staff in order to initiate its new program approach while sharply limiting its growth. As a result, ATI has been able to absorb the additional funding resulting from its successful leveraging efforts to date with little increase in Washington staff but substantial increases in field program staff. During the period 1990-1994 field staff increased by 2,120% (106) and a compounding increase of 46% (16) in headquarters staff. Overall the staff increases for the period were 122.

Figure 8

ATI Headquarters versus Field Staff



ATI has been absorbing additional funds, primarily via leveraging, over the past few years and carefully extending our institutional capacity to soundly manage these increased. These funds have been provided by several donors in support of a number of major initiatives. Figure 9 shows at a glance: ATI's leveraging success, its trend lines on program size and funding, and the major collaborating institutions working with us in each of six principal small producer client categories. It also demonstrates the time frame and magnitude of this support.

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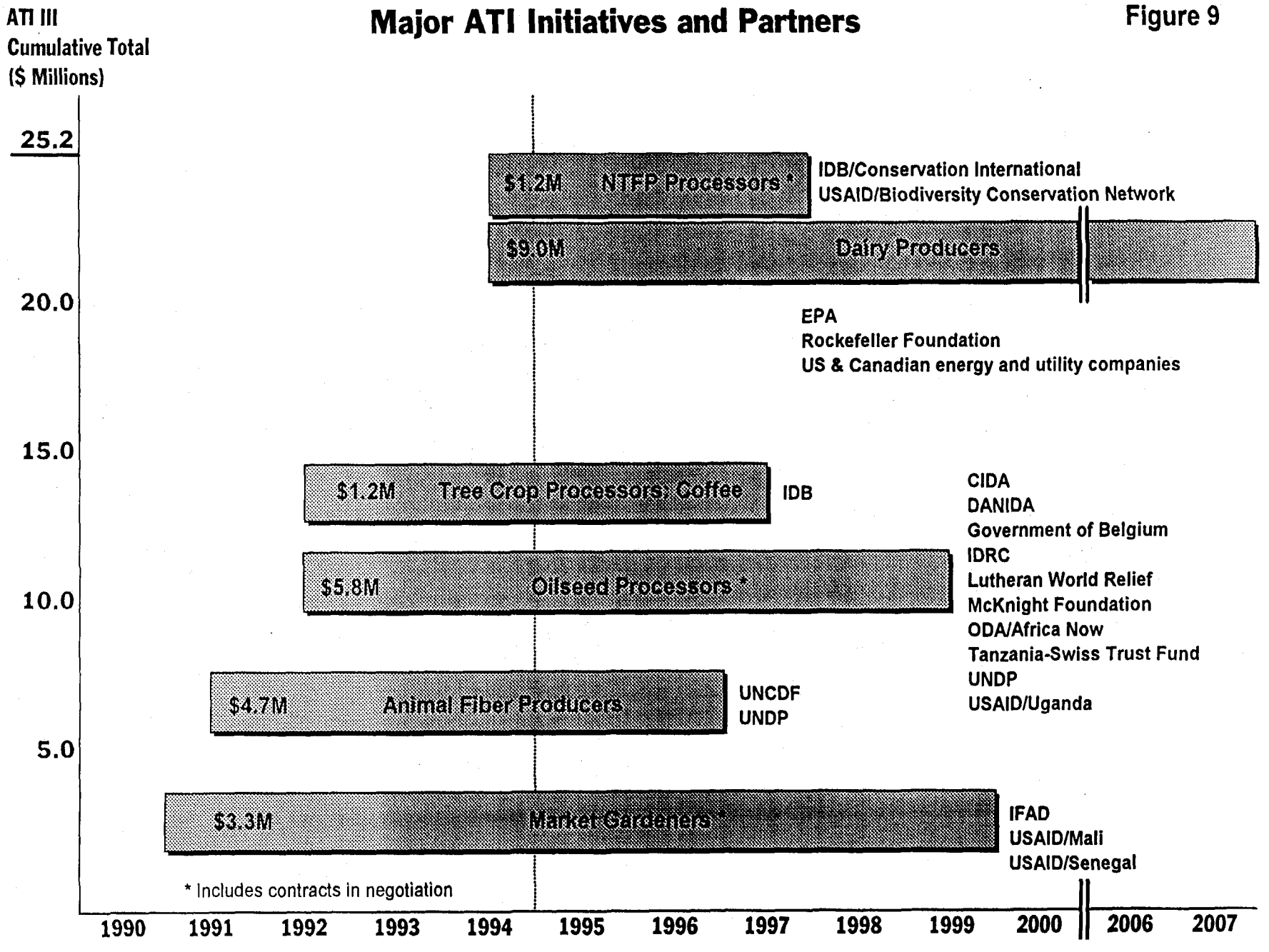
Major ATI Initiatives and Partners

Figure 9



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Experience demonstrates that the critical factor in absorbing additional funding is the number of program activities, and not the amount of funding. There is little, if any, difference in terms of staff needed, between a $200,000 to $400,000 activity and a $1.5 million activity. Financial management of significant additional funding could therefore be handled by a minimal increase in headquarters staff that would be easily accomplished. The draft final evaluation concurs, stating that ATI could readily absorb additional funding by establishing additional field offices while expanding its programs to other countries. In summary, ATI is positioned to absorb significant additional funds in both programmatic and financial terms.

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VIII. CURRENT ATI DEVELOPMENT STRATEGY VS. USAID'S STRATEGIC OBJECTIVES

The broad objectives, specific activities, and institutional characteristics of ATI are consistent with the goals and strategies of USAID. As the draft evaluation notes, "ATI's strategies for small producer development are congruent with USAID's March 1994 Strategies for Sustainable Development... [and] even some of the wording is similar to ATI's" (p. viii, par.2). The specific activities implemented under the current Cooperative Agreement are also compatible: "ATI's projects in the countries visited and reviewed on paper by the evaluators are conceptually and strategically attuned to USAID's current strategies in small enterprise development, development of community-based non-governmental organizations, and environmental protection and preservation" (p.47, par.2).

Microenterprise development and NGO support are now key components of USAID's central strategy. For its part, ATI is building on longstanding experience in technology commercialization for micro- and small-scale entrepreneurs and its extensive network of private sector, nongovernmental partners in an effort to "transform" economic subsectors to the benefit of small producers. The opportunities for USAID and ATI to cover more of this common ground together, and faster, are greater than ever before.

Recently, USAID Administrator Brian Atwood described the link between development actions and human values in a discussion of alternatives to the misery represented by recent events in Bosnia, Haiti, and Rwanda. He wrote, "Technology should be better exploited and shared to empower individuals and enhance the networking of nongovernmental groups, increase food supplies, slow population growth, and preserve natural resources. Sustainable development that creates chains of enterprise, respects the environment, and enlarges the range of freedom and opportunity over generations should be pursued as the principal antidote to social disarray" (7/31/94 Op-Ed in The Washington Post, emphasis added). The balance of this section describes how ATI is designing and executing programs which are sustainable development, as Administrator Atwood defines it.

A. "Chains of Enterprise"

ATI works with producers and their enterprises, whether those are family farms, village-scale enterprises, single entrepreneurs, or larger factories. Its strategy is characterized by three elements. (1) ATI focuses on the multiple constraints that low-income producers of selected commodities face, rather than on credit, technology, management, or other single elements alone; (2) ATI works with partner institutions; and (3) ATI is oriented to achieving significant, measurable impacts.

In its earlier years, ATI was most interested in design and adaptation of small-scale, labor intense devices. Success was judged by the technical quality of design criteria and adaptation in a limited area. By institutionalizing the commercially-driven approach in the years after 1990, ATI left behind the old slogan "small is beautiful" (which, as the evaluators note, never proved to be the "silver bullet" some predicted) to demonstrate a much more powerful tenet: "small producers are central to sustainable development." Consequently, ATI's success is measured in terms of numbers of beneficiaries and value of benefits.

To achieve this success, ATI does not just provide technology, as it did in earlier years. It does not just provide credit or management advice, as do micro-enterprise programs, nor does it work at just the stage of raw materials production, as do many agricultural extension programs. Rather, ATI works across the range of production, processing, marketing, and management.

As staff to small producers, ATI enhances prospects for successful development in three ways:

(1) ATI and its partners conduct an integrated assessment of each step of the value chain, based on its value-adding potential and the number of participants, including many elements from market studies typical of our own economy;

(2) ATI designs productivity increases, management improvements, and other innovations at several points along the value chain to raise the total value of output from the subsector, reduce waste or negative environmental impact, and increase the share that is captured by ATI's low-income clients; and

(3) ATI facilitates access to new and expanded markets through profitable business development that will substitute for continuing program support.

ATI's approach builds the capacity of local partners to foster integrated, value-adding interventions after ATI exits. Over the long term, however, the most important capacity building is that of the small producer clients now increasingly able to assess and transform their own economies in the direction of sustainable growth. Strengthening local producer associations, NGOs, and similar institutions is only an intermediary step; ATI's target of sector transformation depends upon maximizing the assets and releasing the talents and energies of large numbers of private entrepreneurs with a profit-making stake in a new economic order. The ultimate aim is to develop commercially viable industries that, after a period of market development, are fully sustainable.

Programs like these do, in fact, forge and strengthen "chains of enterprise." However. they are more complex than micro-credit programs to develop, however, often involve many more actors, and take longer to mature. The additional time and resources are justified by the potential scale of impact and robustness of their results.

B. Respect for the Environment

ATI perceives that environmental protection and economic development are linked. The only way to influence natural resource use on a scale commensurate with needs is to affect the productive activities of millions of small-scale producers. In this belief ATI is in accord with USAID's recent environment strategy document.[12] USAID has enunciated similar strategies for the Development Fund for Africa and at last year's Banjul conference on development and the environment.

Even before world leaders met in Rio de Janeiro at the 1992 United Nations Conference on Environment and Development, ATI had been working to develop "win-win" solutions to the problem posed by apparent trade-offs between the environment and development for low-income producers. In 1991, Bruce Rich, director of the Environmental Defense Fund's international program, testified before the House Foreign Operations Subcommittee: "ATI has supported programs promoting organic biofertilizers in Thailand and alternative placer mining technology in the Peruvian highlands to reduce mercury contamination in gold extraction. These are the kinds of programs that we believe deserve more support and replication on a larger scale."

Such projects were recognized in 1992, when Glenn Prickett, then with the Natural Resources Defense Council, described ATI, together with the Inter-American Foundation and the African Development Foundation, as "a critical and under-recognized component of the U.S. bilateral assistance program. Because of their small size and grassroots perspective," said Prickett, "they are often better suited than USAID to work with small, in-country, non-governmental organizations on long-term sustainable development projects."

The critical issue for development programs today is scale of impact. One small project that dates from before the current Cooperative Agreement was the design of a simple manufacturing technique for ceramic liners used in charcoal-burning stoves. This ATI contribution to a USAID project in Kenya made it possible for entrepreneurs to manufacture the liner and improved stoves

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[12]Environment and Natural Resources Information Center. 1993. Environment Program Report Arlington, Virginia: DATEX Inc., prepared for USAID.

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on a scale that would achieve the significant impact discussed in section III above, without the substantial government subsidies or sanctions utilized in some Asian countries.

Under the Cooperative Agreement, this technology was disseminated at the other end of the continent, in Senegal. There, 12,000 fuel-efficient, ceramic-lined stoves save households US$103 annually in charcoal costs. The environmental impact is growing; currently, 817 hectares of Senegalese forests are saved annually, with potential for a many-fold expansion. The USAID Mission considers ATI's Senegal program one of its leading success stories, and included it on a short list of highlighted activities recently submitted to the U.S. Congress.

The success of the fuel-efficient charcoal stove program is an example of the kind of impact which established ATI programs have already had; other newer programs illustrate much larger impacts to come. They include:

(1) Tackling pollution prevention and remediation to transform the economies of small-scale coffee producers in Central America and textile producers in India;

(2) Helping non-timber forest product collectors on three continents to preserve biodiversity and capture a larger share of value added through processing; and

(3) Addressing global climate change through improved feeding systems and other interventions for large numbers of small-scale dairy farmers, which reduce ruminant methane release

An August meeting between ATI and USAID's top environmental staff confirmed the congruence between ATI's current activities and strategies and USAID's environmental agenda. Many areas of potential collaboration were cited for future follow-up.

C. "Enlarging Freedom and Opportunity Over Generations"

People with limited income in rural regions and peri-urban areas are ATI's clients. ATI's goal reaches beyond helping them meet basic needs today, to helping them transform their economies for the continuing benefit to their families, their communities, their nations, and generations to come. These small-scale producer clients are not only the economic engine to alleviate poverty in developing countries, they are independent stakeholders vital to reinforcing democracy at the community level.

Social equity is an inherent part of ATI's mission. Consideration of equity issues is consequently integral to ATI's choice of client groups and target sectors of activity. For example, ATI has enunciated a consistent goal of working with women as part of its mainstream programs. As a result, although ATI has no special women's programs, ATI activities over the last five years benefited producers who are women almost as frequently as those who are men.

About 43% of direct beneficiaries were women, based on 1993 data. In one particular instance involving ATI's oilseed processors program, the ram press which facilitates product processing has been scaled down in size and price with women entrepreneurs in mind. As a result, the International Center for Research on Women has chosen this ATI program as one of four USAID-funded case studies illustrating the integration of women into development which will be presented at the World Conference on Women in Beijing in 1995.

ATI 's work with local partners also contributes to expanding social participation. This model not only achieves significant development results, it empowers individuals by increasing local expertise and strengthening the organizational infrastructure essential to economic and political stabilization. These participatory programs insure that development directly benefits local producers; they are in charge. Assistance provided directly to grassroots groups and producers and income derived from their own investments and additions of value cannot easily be diverted by a host country's economic or political elite.

D. Progress and Sustainability

Administrator Atwood's comment is also true of the economic subsectors in which ATI and its partners are working -- they will not be transformed overnight. However, the process has begun, the impacts are measurable and ascending, and the costs per beneficiary are declining rapidly.

Up-front investments made in the early phases of ATI programs do not limit their relevance to USAID's new microenterprise development strategy. These investments make ATI's approach more relevant allowing outreach to low-income, micro- and small-scale businesses are concerned. At the same time, ATI is committed to continuing the decrease in costs per beneficiary it has achieved in recent years, and it is a leader among nongovernmental organizations in this effort. Traditional development projects have supported government programs, providing training and infrastructure, where subsidies and sustainability were rarely issues. The potential for sustainability of the technologies as well as training ATI promotes arises because of the new income which these interventions can generate. Few donor projects offer a comparable potential.

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As ATI's newest partnerships come on line, the private sector orientation of ATI's work is becoming even more apparent. This is certainly the case in the dairy development/methane reduction initiative in India. In June of this year, two major power/utility companies -- Applied Energy Systems and Trans Alta Utilities -- signed a long-term, multimillion dollar contract in support of this first-of-its-kind program. This investment attests to their confidence in ATI's ability to meet strict methane reduction goals AND increase the incomes of hundreds of thousands of producers in India alone over the next decade -- and to do it all with a private sector-based program built from the same sound business practices which characterize these funders' own operations.

Grameen Bank Founder Mohammad Yunus recently underscored the importance of linking micro-credit to value-adding development programs like ATI's. "There is a great role ATI and similar institutions can play in bringing technology where it is needed," Yunus said. "ATI has the knowledge we need and in the manner in which we can use it. We can create jobs, activities for many poor households which become profitable enterprises."

The evaluation draft notes that ATI is "one of the few organizations that focuses on developing small-scale enterprise by improving productivity and profitability through technology development, adaptation, and dissemination...."[13] As such, ATI has much to offer USAID's efforts on behalf of microentrepreneurs worldwide.

[13]From page 2, paragraph 1 of the draft evaluation.

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IX. CONCLUSIONS

ATI's original goal to promote U.S. development assistance of relevance to small farmers and businesses is better served by its current programs than ever before. ATI has achieved a major transformation of its management, strategies, and programs during the term of the current Cooperative Agreement (CA). From a Washington-based, grant-making organization with limited direct impact across a portfolio of demonstration initiatives, ATI has evolved into an effective, decentralized micro- and small enterprise development assistance provider, sharply focused on a handful of sectors and already impacting tens of thousands of clients with solid and rapidly improving levels of cost effectiveness.

Just as importantly, ATI's reorientation has brought the organization on a strategic track parallel to that articulated by USAID's new management in 1993 -- that sustainable economic development which protects the environment, extends the franchise, and empowers local people to mobilize market economies is the only appropriate goal for U.S.-supported development cooperation programs. As a result, ATI is today one of the few development organizations that focuses on transforming the economies of rural producers -- a critical target population seldom effectively reached by more traditional development agencies and institutions.

This common purpose binds ATI to USAID's core programmatic thrusts. The growing emphasis placed by USAID on microenterprise development suggests that the increasingly cost-effective and rapidly expanding impacts which ATI's small producer-oriented programs are achieving could directly advance the Administration's development assistance goals. USAID mission recognition of the value of these programs appears to be increasing under the new Administration as ATI has received support for 8 programs from 5 different USAID missions.

ATI already carries this strategic message into development programs which are mobilizing support from more than three dozen non-USAID funders, leveraging tens of millions of dollars in the process, in essence serving to redirect other donor funds along paths fully congruent with official US.policy. Furthermore, the evaluation draft confirms that ATI already has in place the capability and systems to manage a much larger operation. Even after ATI's substantial expansion in terms of the scale of its programs over the last four years, ATI remains positioned to grow.

Perhaps the best reason for further collaborative support of ATI's programs by USAID is ATI's own commitment to push its progress further. The magnitude of the global development challenges press every committed development assistance organization to seek wider impacts at ever lower costs. ATI is charged with special responsibility in this regard, and it is aggressively seeking new vectors of diffusion for its more mature programs and new methods of collaboration with its expanding range of international donors and local partners.

These initiatives take the form of increasingly effective leveraging, increasingly innovative program funding design, and increasingly decentralized and efficient management structures. In an era when successful development strategies require new collaborations between differing sectors of the global society, ATI has demonstrated its skill in serving as a catalyst to forge productive, often unusual collaborations or alliances. Whether linking normally uncooperative local NGOs and parastatals, or marrying grassroots organizations with well established private sector interests, or joining the concerns of corporate conscience and village enterprise -- ATI helps its partners build the optimum team for the development task at hand.

Much work remains to be done, of course. Assisting rural producer clients to operationalize their enterprise development ventures is no small challenge, and there are important components of ATI's evolving plans for scaled-up impacts that remain to be conclusively demonstrated and efficiently diffused. For example, the robustness over time of ATI-introduced sectoral transformations cannot be established when its current initiatives are not much older than this Administration; but the solid private sector-based market orientation of its programs and its determination to create fully commercialized local enterprise systems promote confidence in the longevity of ATI-sponsored interventions. The fact remains, however, that ATI is already a valuable resource within the USAID program, and key measures of its effectiveness over the several years that its new programs have been in effect suggest the probability for further increases in its cost-effectiveness, outreach, and impact.

In this sense, ATI's current position calls to mind comparisons with enterprises moving out of R&D and into full production of a new range of products or professional services. Much of the higher cost initial program development is complete; the production, delivery, and management systems are in place, and the ramp-up to larger scale impact is now beginning. But limited funding at this key point can throttle initiatives which could otherwise ramp up dramatically just at this stage.

ATI is positioned to record increasingly impressive results through its assistance to successful client enterprises in market sectors which involve millions of low-income people around the world, but the volume of its impact will hinge on its access to resources adequate to reach its potential. While ATI succeeded in leveraging substantial funds under the current CA, this could not have happened without both the core support of the CA itself, and the crucial ATI leveraging contribution made possible by the leveraging fund.

With this retrospective on ATI-III completed, ATI 's management and Board are busy finalizing a proposal for future collaboration between USAID and ATI. This proposal is intended to be responsive to the stringent realities now facing the U.S. development assistance budget, and balance these with ATI's ability to deliver increasingly cost-effective impacts measured in improved small producer economies and enhanced environmental security.

As a result, ATI's proposal for its future collaboration with USAID will be characterized by its commitment to substantially expand its outreach and further improve its cost/benefit ratios, while continuing to --

- Diversify its funding sources
- Maintain commercial viability as the key test of the success of any ATI - assisted enterprise
- Focus on sectors with the greatest impact potential
- Measure performance on the basis of quantifiable indicators
- Further decentralize management and supervisory responsibilities
- Maintain the present low overhead levels.

ATI will present its first draft of this proposal to USAID for its initial comment in November.

ANNEX I

LINE-BY-LINE FACTUAL RESPONSE

ANNEX I

LINE-BY-LINE FACTUAL RESPONSE

This annex addresses errors contained in the draft evaluation. It suggests changes that include simple corrections, additional information required for factual completeness, and limited commentary regarding the tone of certain statements which seem to have colored findings and conclusions reached in the draft evaluation. Annex II contains additional line-by-line commentary on areas of inappropriate tone and provides additional information on ATI views and follow-up.

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LIST OF ACRONYMS

* ANSAB stands for the Asia Network for Small-Scale Agricultural Bioresources.

* Use the definition of "direct leveraging" in the CA Amendment.

* Delete use of the term "indirect leveraging" in favor of the term "instrumental leveraging" that has been agreed on by USAID and ATI. Replace the imprecise definition provided with the one in the CA Amendment.

* ITDG works to promote intermediate technologies, but ATI and ITDG are not competitors.

*Add "LDCs - less developed countries" to the list.

* PVO is not a synonym for NGO, but a subset of the latter. Use the USAID definition of a PVO.

* Approximate exchange rate for Z$ is 7.95 per U.S. dollar.

FACTUAL CORRECTIONS TO EXECUTIVE SUMMARY OF DRAFT EVALUATION
(by page/full paragraph/line)

i/2/2 "The methodology employed in this evaluation was to compare what ATI has been mandated to do by AID, and what has actually occurred in field programs." This statement is only partially true. Because the ATI-III Cooperative Agreement is the contractual document which outlines "what ATI has been mandated to do by AID," it is the yardstick by which ATI should be measured. The Evaluation Team acknowledges this fact and acknowledges ATI's success in meeting all the goals set out in the CA. However, in the end, the team applies its own criteria which, it says, ATI does not meet.

i/4/1-3 The lack of interest by USAID expatriate staffs in the countries visited is more logically a statement about their workload and interests than it is about ATI's programs in those countries.

i/4/3 ATI is a *development assistance institution*; as such, it should not be lumped together with centrally-funded USAID projects, which are generally meant to be of limited scope and duration.

ii/1/9-11 While ATI understands the limitations of cumulative sales reporting, the use of quarterly rather than annual sales is misleading. Sales of technologies for agricultural production or agricultural product processing have seasonal fluctuations due to patterns of raw material availability, climate, and farmers' incomes. Thus, sales should be analyzed on an annual rather than a quarterly basis to avoid the incorrect impression that sales have been flat or declining in some quarters. For example, few treadle pumps are sold in the rainy season and most oil presses are sold before or during the sunflower seed harvesting period. Also, to separately graph sales of the two different models of oil presses obscures the fact that the two presses are substitutes. It would, however, be better to disaggregate sales in Tanzania and Zimbabwe, where external conditions such as droughts have occurred in different years.

Consequently, delete "While these are fine for certain analyses... Figures 1-4 are illustrative graphical presentations of cumulative vs. actual sales by quarter, which the evaluators believe is more representative of the actual technology sales situation... illustrative purposes only."

Add "The annual sales data show large year-to-year increases in treadle pump sales in Senegal in 1991 (323 percent) and 1992 (100 percent). Pump sales did decrease 18 percent in 1993 due to a change in government policy allowing unrestricted imports of vegetables, but recovered in 1994 (128 percent increase projected through the end of the year). Stove sales increased 1,700 percent in 1992,

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went up by only 4 percent in 1993 (perhaps due to the declining economic conditions in Dakar), and an 81 percent increase is projected for 1994. Ram press sales in Zimbabwe showed the following year-to-year increases: 282 percent in 1991, 31 percent in 1992 (despite the worst drought in recorded history there), 198 percent in 1993, and 181 percent (projected) in 1994. Ram press sales in Tanzania increased 6 percent in 1990, 1 percent in 1991, 45 percent in 1992, 39 percent in 1993, and a 7 percent rise is projected for 1994."

ii/2/5 Delete "Staff seem uncomfortable with their private sector business development role." There is no evidence presented to substantiate this statement. To the contrary, ATI is much further along in promoting commercial approaches to small enterprise development than many NGOs. In fact, ATI has staff members and consultants with significant business development expertise.

ii/2/8 - 3/2/3 Delete "Instead of decentralizing ... objectives of ATI's projects." The evaluators' judgment about the balance of Washington and overseas staff is based on a faulty premise because it ignores ATI's local project partners.

Add "As of June 30, 1994, ATI had 52 full or part-time staff positions in Washington, and 26 in ATI's overseas offices, including 7 expatriates. However, ATI does not always implement projects directly. It often works with project partners such as NGOs, cooperatives, and local financial institutions implementing joint projects. Staff of these organizations, which totaled 85, should be considered in the headquarters versus local office balance as well.

"ATI understands the importance of expanding its field presence to achieve a more efficient organizational structure and to respond to problems at the grassroots level more effectively. As ATI's programs have grown, the need to decentralize becomes more critical to achieve high levels of effectiveness in the field." See also line-by-line response to the body of the draft evaluation at 4/2/last.

ii/5/1-3 Delete these two sentences, which ATI contradicts throughout its response to the draft evaluation. See line-by-line response to the body of the draft evaluation at 4/1/24-25, 4/1/25-30, 5/1/10-11, 5/2/1-3, and also various sections in line-by-line responses to annexes.

ii/6/1-3 to iii/-/6 An alternative approach to the expatriate model, one favored by many development professionals, is building the capacity of partner organizations through technical and managerial assistance.

Add "While ATI sees the value of placing expatriates in the field where local capacity is limited, it is generally opposed to an excessive reliance on expatriates. The reasons for this approach are not just to reduce costs, but to increase sustainability and build local capacity. When necessary, ATI has placed expatriates

abroad (this was done in Bolivia, Senegal, Tanzania, and Uganda). However, ATI's preferred approach is to do so only in the initial stages of country implementation before turning over responsibility to a local person (as in Senegal where this transfer of responsibility to a host-country national was requested by the USAID mission for the second phase of the program).

"In ATI's view, building the capacity of host country nationals in partner organizations or hiring them or personnel from other developing countries can be more appropriate alternatives than sending in expatriates. Many donors share this view (especially in Asia) and are reluctant to fund expatriate salaries because of their high cost. ATI also notes that consulting firms and the people they hire have a vested interest in encouraging the use of expatriates overseas, which generates a lot of overhead and profit for the firms and employment for their consultants. Nevertheless, DAI (one of the firms involved in this evaluation) has published a book criticizing the use of expatriates in technical cooperation projects in Africa."[1]

iii/-/5-6 Delete "What sense is there in trying to cut costs too much...A failed project is very costly." While these truisms are unarguable, the wording appears to insinuate that ATI's cost cutting has led to failed projects, an assertion that has not been documented.

iii/2/1 It should be clarified that the Program Description was a joint product of USAID and ATI. For the CA Amendment 12, USAID requested that no basic change be made in the Program Description despite ATI's interest in rewriting it at that time.

iii/3/1 It should be noted that the main intention of the ATI-III CA was to completely reorient ATI from a grantmaking organization wholly dependent on USAID core support for project funding to an organization that leverages project funding from a variety of sources. Because this was a radical change, USAID agreed that ATI should be given considerable flexibility to achieve the goals of the CA.

iii/3/last The correct figure for USAID mission and bureau buy-ins (including grants, add-ons, OYB transfers, and instrumental leveraging) for the period September 30, 1989 to June 30, 1994 is $3,192,742. This excludes $878,019 from the USAID/Senegal PVO Co-Financing Project and $1,324,411 from USAID/Mali (for which ATI received verbal approval of funding in September 1994 and is awaiting written confirmation).

It should also be noted that the CA was not solely concerned with leveraging funds from USAID missions and bureaus because of the interest in having ATI influence other major development institutions in the allocation of their resources.

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[1]Elliot Berg. 1993. Rethinking Technical Cooperation for Capacity Building in Africa. Bethesda, MD: Development Alternatives Inc.

Including other donor contributions, USAID mission and bureau funding, and private sector program contributions from September 30, 1989 through June 30, 1994, ATI has raised $12,368,318 of direct funding and $9,513,756 of instrumental leveraging (excluding the Senegal and Mali PVO Co-Financing grants).

iii/4/2 As noted, ATI prepared a 5-Year Plan for 1992-1996. ATI does not prepare a new 5-Year Plan on an annual basis. Few governments revise a 5-Year plan on an annual basis while the plan period is still underway. Delete "This seemingly has been dropped as no mention of the plan is made after the 1992 Annual Work Plan."

iii/5/2-3 Delete "The 1994 Work Plan ... projects and activities." The 1994 Work Plan contains targets for the year in terms of direct beneficiaries, number of enterprises assisted and gross economic benefits by program area and project in operation.

Also, USAID gave ATI permission to delay the 1994 Work Plan due to uncertainty over the funding level that ATI would receive for that year at the usual time of work plan preparation.

iii/5/3 Replace "mid-1994 report" with "1994 Semi-Annual Progress Report."

iii/5/3-4 After "was not available to the evaluators" add "because it was not due until after the evaluators were scheduled to complete their first draft."

iii/5/6 This discussion of ATI's reporting classifications is flawed. Delete "With nine subsectors ... what's really going on." Add "With nine program areas and disaggregation between new and existing business, ATI reports on 18 categories."

iv/3/2 Delete "or at least they believe they are." This language unnecessarily casts doubt on a very positive finding for ATI. Economic theory presumes that small-scale farmers and entrepreneurs are the ones best able to judge whether their economic well-being has improved.

iv/3/last Delete ", but over the years achieving impact through the introduction and commercialization of successful technologies has been illusive [sic]." Add "However, ATI activities under the previous CA (not the focus of this evaluation) have resulted in sustainable benefits that are still continuing to accrue to assisted producers long after project support has ended." While the evaluators did not examine ATI's programs before 1989, there are some notable examples of successful commercialization. See also response to 2/3/5 in the body of the draft evaluation.

iv/4/7-10 "In one project visited... in its training activities." This reference to the Bolivia Alpaca Producers Project fails to note the significant achievement it is to have women comprise one-third of training participants. Women in the Bolivian *altiplano* often find it difficult to attend trainings due to their workload and social responsibilities.

The percentage of the trainees who are women compares well to that of other agricultural development projects in Bolivia.

iv/5/1 Replace "introducing" with "commercializing."

iv/5/2-3 Delete "it continues projects indefinitely as pilots." Add "While it was ATI's mission prior to September 30, 1989 to design and implement experimental or pilot projects, the organization has gone well beyond this stage since then." The conventional definition of a pilot project is a "tentative model for future experiment or development."[2] According to this definition, ATI's regional programs for expansion and replication of earlier activities are not pilot programs because they are already providing direct economic benefits to a substantial and rapidly growing number of people. ATI's multi-country program that has sold over 1,620 oil presses and our national program that has sold nearly 12,000 stoves in three years are well beyond what is conventionally termed a pilot project by most development professionals. ATI accepts the basic point that it needs to adopt a more commercial approach to achieve more widespread adoption of the technologies or products and suggest a rephrasing along these lines.

v/1/1-2 Delete the incorrect statement that the technologies "show no apparent sticking power or ongoing permanent impacts." Add "Current ATI-III programs disseminating the ram press and treadle pump have already reached the point where manufacturing and use would continue even if all project assistance were terminated." Note, however, that they would not expand as quickly in the absence of further promotional efforts. The ram press has made a long-term difference in the net income of oilseed farmers. Nearly all of the presses sold in Tanzania since 1986 are still in use. Local maintenance and repair is no problem and new manufacturers have begun production on their own. New manufacturers of the treadle pump also began production in Senegal, even without project assistance. The Small Industries Development Bank of India plans to finance many additional units of the common biological treatment facility designed by ATI to reduce water pollution by small-scale textile producers.

v/2 Delete this entire paragraph. The discussion of appropriate technology does not appear to reflect the predominant views of development professionals on the importance of poverty alleviation in achieving growth with equity. In addition, ATI has grown far beyond its more narrow appropriate technology origins.

v/3/3 Replace the statement that "Projects are pilot forever and do not quite make it to ..." with "ATI's projects have not yet made it to..."

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[2]American Heritage Dictionary, Boston: Houghton-Mifflin, 1991

v/3/3 Delete "Heavy" before "subsidization" here and throughout the Executive Summary. Heavy subsidization is not defined in the draft evaluation. Many experts might disagree with this characterization of ATI's programs if actual quantitative data were presented on the extent of subsidization, particularly in comparison to the programs of other PVOs and bilateral and multilateral development assistance agencies.

v/3/last Add "However, ATI has begun to conceptualize more commercial approaches and has recently brought in new expertise in this area -- consultants as well as field staff."

v/4/1-4 Delete the first two sentences of this paragraph. The social pricing and production subsidy issues are discussed at length in ATI's line-by-line response to the Senegal and Zimbabwe trip reports, as well as in the response to the body of the draft evaluation. The issues of pilot projects and subsidization in development assistance are discussed in ATI's general response to the evaluation. The Executive Summary does not mention any of the counter-examples that show ATI's reliance on market price incentives from the start of activities such as the Philippine Coconut Processors Project; Rhizobium Projects in India, Sri Lanka, and the Philippines; and planned Non-Timber Forest Products projects in Nepal and India.

Add "While ATI does not generally subsidize production directly (although there have been some exceptions), it has frequently subsidized distribution and promotion of technologies in its projects because small-scale producers lack knowledge of improved technologies and tend to be risk-averse. However, subsidization of promotion and distribution is not required indefinitely."

A subsidy (or an investment) is desirable on economic efficiency grounds whenever the present value of the net benefits resulting from it is positive and greater than alternative uses of the resources. Subsidies can also be economically efficient when they reduce negative environmental externalities. For example, expenditures on a household stoves project to conserve wood resources are much more cost-effective than reforestation efforts, which are being subsidized by USAID and the Government of Senegal.

The objective of development is not just maximization of economic growth, but achievement of growth with equity, a desirable social outcome. Every development program and institution in the world provides subsidies. By its very nature, development cannot be measured in simple commercial terms from the outset because human resources need to be built up and capital markets are imperfect. Moving projects beyond the pilot stage means addressing all sorts of issues that go beyond the question of simply getting the prices right. Poverty alleviation cannot be accomplished unless human resources are developed, technologies of production are improved, financial resources and necessary inputs are available, and market access

is increased. Development that achieves economic growth with equity is not an easy task.

v/5/1-2 Delete "Mindful of the fact that almost anyone having millions of dollars of subsidy can develop what appear to be temporarily successful pilot projects, ATI does just that." This statement is highly inappropriate. It implies a degree of subsidization that does not exist, and a level of funding well beyond ATI's $3-$4 million per year of USAID central funding.

v/footnote 1 Again, the statement about ATI's control over pricing is incorrect and should be deleted.

vi/bullet 1 Delete the phrase "or projects that purport to be successful." It implies that ATI is misrepresenting the success of its projects. Also delete the phrase "but which would vanish with [sic] their subsidies." There is no evidence presented in the draft evaluation that this conclusion is true. Firms producing the technologies are currently earning a profit. An S-shaped curve in acceptance of new technologies is a common phenomenon -- slow at first, then rising rapidly at an increasing rate once the take-off stage is reached, and then slowing as the market becomes saturated. As long as private sector manufacturers are producing a technology at a profit (and it is clear that they would not continue to produce if that were not the case), the technologies are in fact commercially viable.

vi/1/3-6 Delete "subsidies must increase proportionately with the sale of each 'tool'" and "subsidies will have to increase radically as 'scaling up' occurs."

Subsidies in Senegal and Zimbabwe, for example, have been declining over time rather than increasing. For the period January through September 1994, the Senegal project's marginal costs were only $170 per pump and $11 per stove. During the period of the PVO Co-Financing Project, the expected marginal project cost is $80 per pump and $10 per stove. ATI has no plans for further expenditures on promotion and advertising of treadle pumps or stoves in Senegal after the next 3 years.

While the Zimbabwe Oil Press Project has been subsidizing distribution of the presses and user training, but not manufacturing, the level of this subsidy has been declining. As manufacturers' wholesale price bids have declined, ZOPP has kept the retail price at the original level so it could reduce the subsidy to the buyers in transport and training. ZOPP plans to eliminate this subsidy and relinquish its role in distributing presses entirely. Repair artisans trained by ZOPP now stock spare parts for sale locally. ZOPP no longer covers the costs of repairing presses.

ZOPP has reduced its subsidies in other parts of the subsector as well. It initially promoted cultivation of hybrid seed, but has since exited after demonstrating to Pannar, a private sector company, that there was sufficient demand for the hybrid

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planting seed to establish a decentralized supply network. The project has also exited from providing extension services for sunflower cultivation in favor of the government extension service.

As the press becomes well-known in the country, it will no longer be necessary for any entity to continue a major campaign of demonstration and promotion. Manufacturers would then just have to advertise their prices and location. They or their sales agents would provide transport and user training services. After ZOPP finally resolves manufacturing problems with OILS assistance, it plans to exit from the role of serving as an intermediary between manufacturers and press buyers.

vi/2/1-9 Delete "ATI simply cannot continue to bury its head in the sand when the issues of institutional self-sufficiency and sustainability are raised. Organizations that don't face up to these issues are irresponsible." The statements are demeaning to ATI management and are incorrect. ATI has raised $21.882 million in funding commitments on the basis of less than $15 million in core support and $1.615 million in leveraging funds (as of June 30, 1994).

It should be noted that the 1992 Evaluation Team dismissed the notion that institutional sustainability can be equated with self-sufficiency (see line-by-line response to the body of the draft evaluation at 38/6/4-6). General support cannot be secured from other governments, foundations, multilateral institutions, or to any significant degree, the private sector. Nearly all other donors will only support implementation of specific projects that they approve. Few donors will pay for the development of strategies, technology R&D or adaptation, project identification, and feasibility studies necessary for successful project design.

In the absence of general support, no combination of overhead recovery, realistic management fees, or unrestricted corporate donations can fill the gap. Corporations are unlikely to provide more than token donations ($5,000 here and there) and this would require expending more of senior management's time than could be justified by the returns. That has been the experience of the World Resources Institute and many other organizations.

ATI cannot develop as a membership organization because the cost of soliciting memberships is not an allowable use of federal funds. Membership building and direct mail or telephone solicitations entail huge front-end costs and long lead times. A for-profit consulting firm is a theoretical model, but this would move ATI away from the purposes for which it was created. Furthermore, the big money in contracting does not gravitate toward development strategies for low-income, small producers. While ATI staff have been contracted out for short assignments that earn overhead and management fees, this is generally only done when it also has a potential payoff for program development.

vii/1/2 Replace "$2.7 million" with "$8.422 million".

vii/1/2 Replace "using potential carbon reduction offset legislation to convince them to invest" with "interested in contributing." AES/TAU came to ATI after they heard ATI was working on greenhouse gas reduction through strategic livestock feed supplementation for small-scale dairy producers in a developing country.

vii/2/1-8. ATI has never claimed an "entitlement," but has made its budgetary arguments to USAID and Congress on the merits of its programs. (In addition, the use of the term here is inconsistent with the generally accepted definition of "entitlement" as nondiscretionary government spending.) Because it was charted by Congress, ATI is, in fact, different from other PVOs involved in international development assistance. There are, moreover, other organizations that Congress has established (such as the African Development Foundation, Asia Foundation, and Inter-American Foundation) that continue to receive annual appropriations from the Federal government.

vii/2/5-8 Delete "ATI's response... entitlement to Federal funds." See response above.

vii/last/last Delete "for the continual replication of relatively low-impact pilot projects?" See response to iv/5/2-3 and ATI's general discussion of impacts in our general response "Framework Progress."

viii/2/6 Add that, "The current system passed the rigors of Independent Audits of Federal Awards in Accordance with OMB Circular A-133 as well as acceptance of those audits by the USAID Inspector General for the periods covered in this report."

viii/3/4 Add ", which it predates" after "AID's current Strategy [sic] for Sustainable Development."

viii/4/3-5 Delete "From the very beginning, ATI's successful pilot projects have had no realistic prospect of becoming commercially successful (sustainable) and/or reaching significant numbers of needy people." There is no basis provided for this negative appraisal of the future prospects of commercial viability. As previously mentioned, ATI's activities after 1990 do not constitute pilot projects, according to the conventional definition. See also the discussion of the pilot project and subsidy issues in the general response to the evaluation draft.

viii/4/7-8 Replace "20 years" with "11 years." Demonstration projects for technology commercialization were not even an objective of the organization until the ATI-II Cooperative Agreement that began on September 30, 1983. Prior to that, much of the organization's activity consisted of local institution building and information dissemination. Delete "$40 million" since the scope of work for this evaluation was only concerned with the period since September 30, 1989, in which ATI received $17

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million in grant funding from USAID. The period prior to the current CA when the organization was under different management and had a substantially different staff is not relevant to this evaluation.

viii/first bullet 1 Delete "Blanket early subsidies of product must continue indefinitely to assure ongoing dissemination, replication, and diffusion." No support is given for this statement (which also contradicts other recommendations for adding expertise in marketing and working more with private sector channels of commercialization). See response to vi/1/3-6.

ix/3/first bullet 2 This statement is factually incorrect and is discussed at length throughout this response to the draft evaluation.

ix/3/first bullet 3 This statement is contradicted by the list of ATI staff members and consultants with business, finance, or marketing backgrounds in our general comments. During the ATI-III period, staff members such as Ken Locklin, Ann Koontz, S.K. Gupta, Richard Bowman, and consultants Michael Goldberg and Jeffrey Rosenberg were chosen for their business or finance skills. ATI recently hired a consultant, Carolyn McCommon, to help us develop private sector market linkages for our overall program; in 1993, ATI hired a marketing consultant, Sheila Mooney, to help ATI's project partner in Guatemala identify specific market outlets in the United States for ceramics products.

Earlier, in the ATI-II period, staff members with business, finance, or marketing skills included Marshall Bear (who later became Director of CARE's small enterprise program), Robert Strauss (a consultant who has since worked for CARE and USAID through DAI and other firms), Michael Goldberg (who later joined CARE's small enterprise development program and is now a World Bank consultant), Tim Mooney (now with Abt Associates), Mike O'Donnell (now with the IDB), Alene McMahon (with John Snow Inc.), Hank Jackelin (now with UNDP), and G. Michael Tiller (now with the IFC).

ix/3/first bullet 4 The pilot project issue is discussed throughout this response to the draft evaluation. Furthermore, there is no basis for the statement that "staff rewards" are based on a pilot project orientation.

ix/4/second bullet 1 The evaluation draft makes no logical connection between its findings and its recommendation of terminating core support. The ATI-III CA, as amended, is the contractual document that governs what ATI was supposed to do during the period from September 30, 1989 to date. As the draft notes, the actual targets of the CA have been substantially met or exceeded in every category. The evaluators also acknowledged that ATI has been successful in selecting technologies that can produce significant improvements in productivity, provide new opportunities for increasing value added for low-income producers, save natural resources, and reduce

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pollution. Given the above, the principal option of the 1994 Evaluation Team to terminate core support has no logical basis.

ix/second bullet 2 The tone of the second option is too sarcastic for it to have been seriously considered.

ix/second bullet 3 and 4 The third and fourth options are not discussed in the main text of the report.

ix/after bullet 4 Within the main text of the report, two additional funding options are discussed that are not mentioned in the Executive Summary: 1) developing a plan for ATI to achieve funding independence by the year 2000 (see 39/2/4-5) and 2) expanding the amount of leveraging funds to be given to ATI on the grounds that ATI is a good instrument through which to channel additional funding (45/2/1). Add these options to the Executive Summary.

x/last/1-2 While there is no disagreement that appropriate technology is not a silver bullet for development problems, it should be noted that the same comment applies to large-scale modern technology. In any event, ATI's mission is limited to increasing the incomes and employment of selected major classes of small-scale producers, not solving all development problems.

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FACTUAL CORRECTIONS OF BODY OF DRAFT EVALUATION
(by page/full paragraph/line)

1/2/last Add "After the initial period of planning for the establishment of the organization, ATI actually began operations in 1978."

1/3/6 Add "ATI has generally had private sector representatives on its Board of Trustees. Past Board members representing the private sector included Fletcher Byrom (Koppers Co.), Paul Hawken (Smith and Hawken), Robert Jackson (Chemical Bank), Robert McConnell (Infomart), Katsu Murayama (Kojinsha Organic Farm), William Norris (Control Data Corp.), Jack Sullivan (Development Associates), and Franz Tyaack (Westinghouse Canada). Also, ATI did, in fact, receive a small amount of private sector funding support from the Control Data Corporation.

"Present Board or Council members with business backgrounds include Ed Harrell (previously with Dupont and Price Waterhouse, now a consultant with special expertise on privatization in LDCs), Edward Hoff (Center for Executive Development -- a marketing/management consultancy firm for Fortune 500 companies), W. David Hopper (Haldor-Topsoe Inc.), Peter McPherson (previously USAID Administrator and Bank of America executive, now President of Michigan State University), Esther Ocloo (Association of Ghana Industries), and Michael Phillips (Noren Institute for Small Business).

"The Board and Council also have representatives from private and voluntary agencies, universities, think-tanks, and government, as well as opinion leaders: William Drayton (Ashoka: Innovators for the Public), Ela Bhatt (Self-Employed Women's Association), The Honorable Paul Bomani (former Minister of Finance and Chairman, Central Kezai Bank, Doyukai), The Honorable David Bonior (U.S. House of Representatives), Margaret Catley-Carlson (Population Council), The Honorable Thomas J. Downey (Downey & Associates), Hazel Henderson, Sandra Kabir (El Taller), Saburo Kawai (International Development Center of Japan), Dr. Emil Salim (Center for Policy and Implementation Studies, Indonesia), The Honorable Claudine Schneider (Artemis Project), Motoo Shiina (Policy Study Group, Japan), and Saburo Yuzawa (JETRO)."

1/3/8-10 Add "ATI did not develop as a membership organization because the cost of soliciting memberships is not an allowable use of federal funds. Membership building and direct mail or telephone solicitations entail huge front-end costs and long lead times." Delete the incorrect statement that "although obviously most board members were employed by such organizations", which is contradicted by the response to 1/3/6.

1/3/10 Delete "An organization without the guidance of owners, or a constituency, and/or interested membership is akin to a ship without a rudder." Many development

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assistance agencies such as Winrock, the Asia Foundation, the Inter-American Foundation, and the African Development Foundation also do not have owners, a constituency, or interested membership. ATI does have a constituency of interested parties both here and around the world, including clients, collaborators, and partners. More fundamentally, ATI's Board of Trustees and Council provide ample guidance as does USAID in its oversight of the Cooperative Agreement.

1/footnote 2 There is no evidence that David French was the author of the USAID proposal; this reference should be deleted.

2/1/1 In "ATI claims it is different" delete "claims it". It is a fact that no other PVO involved in international development assistance was chartered by Congress. Add "Congress determined that a smaller, free-standing organization could be more responsive to innovative, grassroots development approaches for increasing the incomes and productivity of small-scale producers than a unit within USAID. There are, moreover, other organizations that Congress has established (such as the African Development Foundation, Asia Foundation, and Inter-American Foundation) that continue to receive annual appropriations from the Federal Government."

2/1/3 The funding figures are incorrect since the sentence pertains to the past 17 years and presentation of a single average obscures the trend of declining core support. Replace "of an average $3.0-$4.0 million per year" with "averaging $3.93 million a year from August 31, 1978 to September 30, 1983, $4.146 million a year from 1983 to 1989, and $3.4 million a year from September 30, 1989 to December 31, 1994 (obligated)."

2/1/5 Delete "(overhead)" after "funding received from AID/W to cover headquarters" since a large proportion of this funding covers direct program expenditures for financial assistance overseas, rather than indirect or administrative costs.

2/1/6 Delete "It views itself as having an 'entitlement' to this funding," which is inconsistent with the generally accepted definition of "entitlement" as nondiscretionary government spending. ATI has never claimed an entitlement to Federal funding.

2/1/10 Replace "up to fairly recently" with "until 1989" before "received literally all its support from/through the Agency."

2/2/2 Replace "Finally, after much encouragement from AID and $2.0 million in addition [sic] grants funding," with "Under the ATI-III CA, ATI and USAID agreed that diversification of program funding would be a new priority for the organization starting September 30, 1989. In 1991, Congress appropriated $1 million in leveraging funds so that ATI could bring program funding to the table to influence the development strategies of other donors, rather than merely serving as a contractor for them. At the urging of Congress, USAID in 1993 provided an additional $1 million for ATI's

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leveraging fund." ATI developed the idea of a leveraging fund and has used the fund to raise significant amounts of program funding in a relatively short period of time.

2/2/4-5 After "Much of the money raised is from non-AID sources" add "(which is encouraged in the ATI-III Cooperative Agreement)".

2/2/7-8 Add "ATI-III" before "cooperative agreement".

2/2/9-11 After "central bureaus" delete "Finally," and add "This does not include the $878,109 USAID/Senegal's PVO Co-Financing Project has verbally agreed to provide to ATI or the $1,324,411 million USAID/Mali has approved in principle (pending ATI's receipt of written documentation). Also, in April 1994, ATI secured a commitment for $2,769,937 of direct funding and $5,652,340 of instrumental leveraging for the dairy herders program in India from two power companies, AES and the Trans-Alta Corporation, interested in the potential of the program for reducing methane emissions of cattle." After "is on the brink of developing private sector financial support" delete "through environmentally conscious power companies." Including the other donor contributions, USAID mission and bureau funding, and private sector program contributions from September 30, 1989 through June 30, 1994, ATI has raised $12,368,318 of direct funding and $9,513,756 of instrumental leveraging (excluding the Senegal and Mali PVO Co-Financing grants).

2/3/5 Delete the incorrect statement, "none of the technologies or tools developed by ATI over the years have been successfully commercialized, spun-off, or taken over by the private sector. Without the subsidies provided by donors, the appropriate technology has faded from use if not disappeared altogether."

Add "ATI activities under the previous CA (which were not examined under this evaluation) have indeed resulted in sustainable benefits that are still continuing to accrue to assisted producers long after project support has ended. While the evaluators did not examine ATI's programs before 1989, there are some notable examples of successful commercialization. As a result of the Puttalam Aquaculture Project in Sri Lanka, small scale shrimp producers continue to enjoy substantial increases in income. The Leather Tanners Project in India enabled a highly disadvantaged group of Chamars to operate a leather tannery at a profit, and a second tannery is currently being built in Uttar Pradesh by another cooperative of Chamars.

"In Guatemala, wool producers are still benefiting from the introduction of improved breeds of sheep and better animal husbandry and shearing techniques. Weavers of woolen products continue to buy improved materials and market their products through a center now run and fully financed by the producers group. Also in Guatemala, the Nahuala wood artisans are still benefiting from the design and marketing assistance provided earlier; this year, they managed to export products to

Pier One Imports. In Kenya, cultured ("mala") milk plants owned by dairy farmers continue to operate profitably.

"Moreover, ATI's current efforts are resulting in sustainable manufacturing and use of tools and technologies, such as the ram press, improved stoves, and treadle pumps. The Kenya stoves project provides an indicator of the commercial potential of the Senegal stoves. The same is true for the treadle pump in Senegal, based on the experience in Bangladesh where hundreds of thousands are now in use.

"Furthermore, the 1994 Evaluation Team's emphasis on commercial spinoffs and short-term perspective is not shared by all donors. Some donors are only interested in paying for measurable impacts that can be directly attributed to their donation. A good example of this is the contribution from AES and TAU, where these private sector donors insisted on ATI's maintaining a project presence rather than exiting. ATI originally designed the India Dairy Herders project with a phase-out of all project support by year five. The donors demanded that the project office be kept open and outreach activities maintained through the 13th year of the project to ensure that economic and environmental benefits would be attributed directly to their contributions. Even USAID did not specify in the ATI-III CA that commercial spinoffs should be the criterion for measuring ATI's performance."

3/3/6-7 Replace "while complete, are possibly too voluminous to be useful" with "are complete and extensive" because ATI has found its documentation essential in informing USAID and other donors of its activities to maintain and expand its funding base.

3/3/7-last While ATI understands the limitations of cumulative sales reporting, the use of quarterly rather than annual sales is misleading. Sales of technologies for agricultural production or agricultural product processing have seasonal fluctuations due to weather patterns, the availability of raw materials, and farmers' incomes. Thus, they should be analyzed on a yearly basis to avoid giving a false impression that sales have been flat or declining. For example, few treadle pumps are sold in the rainy season and most oil presses are sold before or during the sunflower seed harvesting period. Also, separately graphing sales of the two different models of oil presses obscures the fact that the two presses are substitutes. It would be better to disaggregate sales in Tanzania and Zimbabwe to indicate the effects of droughts that have occurred in different years in the two countries.

Consequently, delete "While these are fine for certain analyses... Figures 1-4 are illustrative graphical presentations of cumulative vs. actual sales by quarter, which the evaluators believe is more representative of the actual technology sales situation... illustrative purposes only." and replace figures 1-4 with the attached graphs of annual sales. (It should also be noted here that the descriptions in the original figures one through four, by describing cumulative sales vs. "actual" quarterly sales, imply that ATI

has misrepresented quarterly sales in some way. This is not correct and should be addressed in any graphs/charts appearing in the final evaluation report.)

Add "The annual sales data show large year-to-year increases in treadle pump sales in Senegal in 1991 (323 percent) and 1992 (100 percent). Pump sales did decrease 18 percent in 1993 due to a change in government policy allowing unrestricted imports of vegetables, but recovered in 1994 (128 percent increase projected through the end of the year). Stove sales increased 1,700 percent in 1992, went up by only 4 percent in 1993 (perhaps due to the declining economic conditions in Dakar), and an 81 percent increase is projected for 1994. Ram press sales in Zimbabwe showed the following year-to-year increases: 282 percent in 1991, 31 percent in 1992 (despite the worst drought in recorded history there), 198 percent in 1993, and 181 percent (projected) in 1994. Ram press sales in Tanzania increased 6 percent in 1990, 1 percent in 1991, 45 percent in 1992, 39 percent in 1993, and a 7 percent rise is projected for 1994."

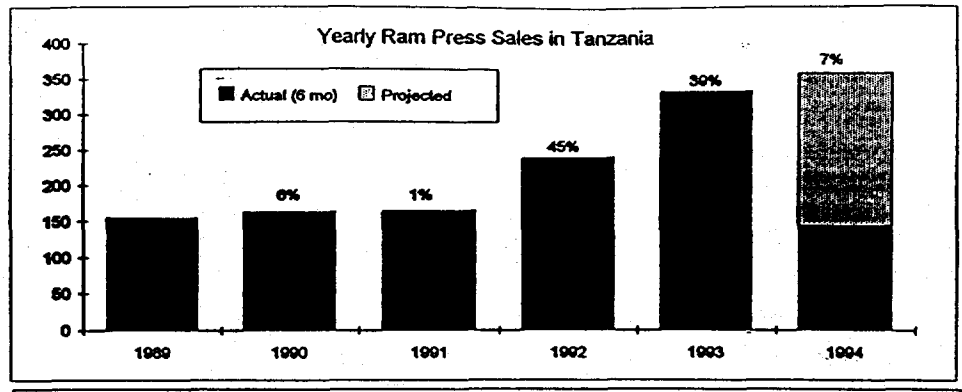
4/-/3/3-4 This unattributed statement is inconsistent with others in the draft evaluation criticizing ATI for micromanagement (4/1/9-18 and elsewhere).

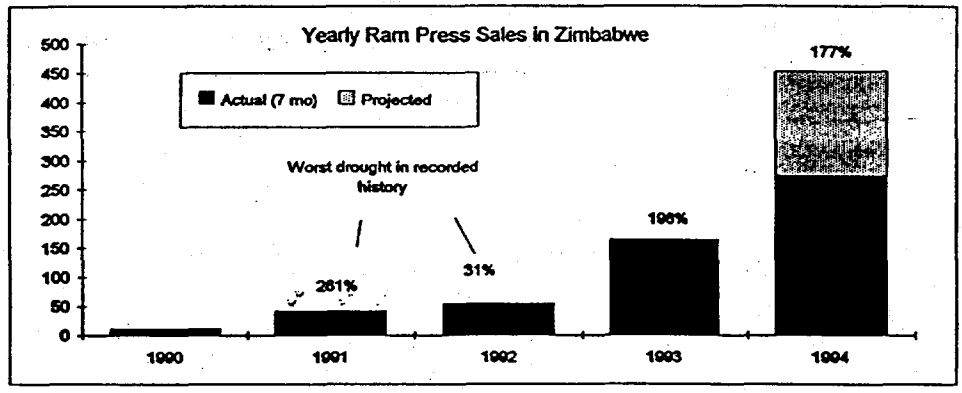
4/-/4-6 Since one of the main purposes of the ATI-III CA was to encourage ATI to diversify funding, it is inappropriate for this evaluation to criticize the organization for successfully carrying out one of its main obligations of the contract with USAID. Delete "In fact, the 1993 workplan estimated 'More than 60 percent of all project staff time will be occupied in efforts to identify additional financial resources, as well as a central focus of senior management.'"

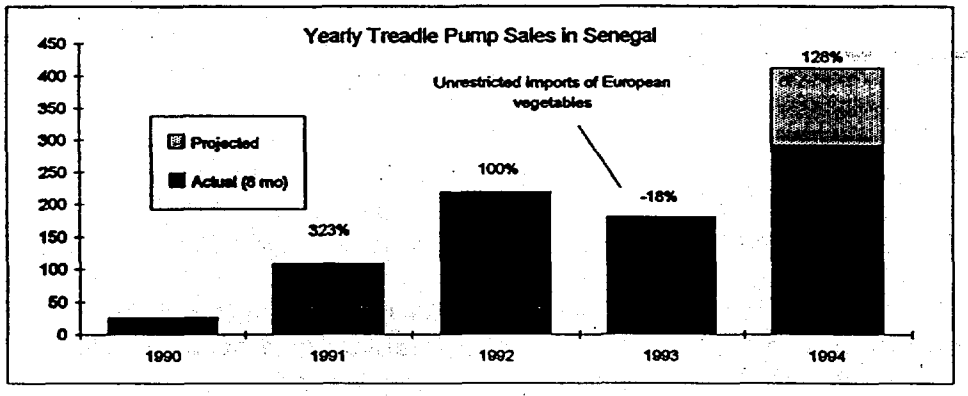
4/1/24-25 Delete "expatriates hired in country with no particular loyalty to either ATI or the U.S. foreign aid program/U.S. policy." This statement is inappropriate; it demeans the many dedicated, highly-qualified individuals working for and with ATI in the field. Add "ATI hires the best people available to solve difficult problems of rural and urban poverty in LDCs. When possible, it is desirable to hire local people who are most familiar with the culture and institutions. Where ATI hires expatriates, it is without regard to whether they are U.S. citizens or third-country nationals. USAID also hires third-country nationals in its own field programs."

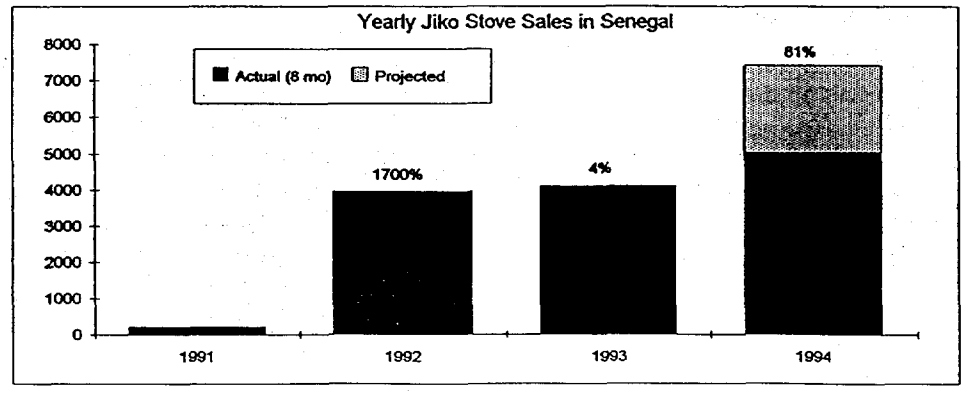
4/1/25-30 Delete the factually incorrect statements that "many decisions on pricing of ATI's technologies ... are made by Washington-based staff. Reportedly, this is done to ensure the technologies enter the market at affordable prices to the poor"; and "This has proved to be a guarantee of nonsustainability." Add "Neither ATI/Washington nor ATI's local offices and project partners set prices for technologies. In Senegal, the project provides manufacturers with an estimate of production costs, but they are free to and do set whatever prices they want, subject to market demand. In Zimbabwe, the project solicits competitive bids from multiple manufacturers who have shown that they are capable of producing a quality product; this is a standard business practice."

Yearly Increases in Sales of ATI's Technologies









Column percents show increase over previous year.

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4/2/1 Delete "The ratio of headquarters to U.S. assigned overseas expatriate staff is lopsided." This statement is not supported by the facts. Add "As of June 30, 1994, ATI had 52 full or part-time staff positions in Washington and 26 in ATI's overseas offices, including 7 expatriates. However, ATI does not always implement projects directly. It often works with project partners such as NGOs, cooperatives, and local financial institutions implementing joint projects. Staff of these organizations, which totaled 85, should be considered in the headquarters versus local office balance as well.

4/2/last Add in a footnote "ATI has already begun to decentralize its decision making to the field. Regional OILS staff member Jonathan Otto will be relocating from Vermont to Tanzania and, as mentioned elsewhere, Andrew Macpherson is already based in Zimbabwe. The Asia team has decided to replace one vacant, Washington-based program development director position with three Asian professionals located in the region.

"ATI's approach since 1990 has been to locate staff in the field when programs with funding are in place; the positions are driven by functional needs. In 1994, ATI established new field offices in India, El Salvador, and Uganda. As ATI successfully leverages funds for other large projects, it plans to continue to decentralize by building field staff. However, experience dictates that leveraging of funds for new projects is most effectively done by the Washington-based staff. By establishing new overseas offices, the balance between the head office and field offices will improve. Decentralization is also promoted by ATI's cooperation in the establishment of ORAPECA, a consortium of NGOs in Central America concerned with transforming small-scale producer economies in the region."

5/-/12 Delete "ATI is pressured to hire people, who may not have the skill, understanding nor share the organizational perspective to carry out ATI's Small Producer strategy effectively." No evidence is presented to support this statement.

5/1/10-11 Delete "It is the evaluation team's assessment that field staff are principally considered to be project caretakers." ATI/Washington most emphatically does not consider project staff and project partners "caretakers." Such an attitude would be an affront to their skills and intelligence.

5/2/1-3 Delete "For ATI to develop and market commercially viable technologies, it cannot concern itself principally with the cost of expatriate advisors. To assign host country staff to projects simply to be politically correct and to reduce costs is questionable." There is no evidence that ATI concerns itself principally with the cost of expatriate advisors. Nor is there any evidence that ATI employs host-country staff to be "politically correct." The latter statement is inappropriate and demeans both ATI host-country staff and ATI/W personnel.

Add "While ATI understands the value of placing expatriates in the field where local capacity is limited, it is generally opposed to excessive reliance on expatriates. Its reasons are not only to reduce costs, but also to increase sustainability and build local capacity. When necessary, ATI has placed expatriates abroad (in Bolivia, Senegal, Tanzania, and Uganda). However, its preferred approach is to do so only in the initial stages of country implementation before turning over responsibility to a local person (as in Senegal, where the transfer of responsibility to a host-country national was requested by the USAID mission for the second phase of the program).

"In ATI's view, building the capacity of local partner organizations or hiring host-country nationals or personnel from other developing countries can be a preferable alternative to sending in expatriates. Many donors share this view (especially in Asia) and are reluctant to fund relatively high expatriate salaries. Consulting firms and the experts they hire may have a vested interest in promoting the use of expatriates due to the high salaries and overhead paid. For a more complete treatment of the host-country national approach versus the expatriate approach, see Rethinking Technical Cooperation for Capacity Building in Africa by Elliot Berg, published by Development Alternatives Inc., one of the firms involved in this evaluation, in 1993."

5/2/3-4 Delete "There is nothing more costly than a failed project." ATI agrees with this truism, but its placement seems to suggest that ATI is running failed projects even though the evaluators have not documented that to be the case.

5/3/1-3 Delete "If AID accepts ATI's contention that it should maintain Washington-based control over projects with a very top-heavy Washington staff, then AID also accepts the notion of continued management bottlenecks and low impact." This statement follows from incorrect premises and statements discussed above (5/2/1-3, 4/2/1, and 4/2/last).

5/last/5 to 6/-/1-4 Delete "production and sales bottlenecks" have resulted from "remote control decision making and central planning from Washington". Where there have been production and sales bottlenecks, they are attributable to the constraints facing small-scale producers and the general economic conditions and poor infrastructure of less developed countries (see also comments on 5/3/1-3).

6/1/7-11 Delete the factually incorrect statement, "All decisions on manufacturing specifications are made in the United States and transmitted to the field via trips or faxes." Add "The original large ram press was designed by Carl Bielenberg in Tanzania while working with a local manufacturer, the Themi Farm Implements Company. Modifications of the large press were later made by Martin Fisher in Tanzania. Most of the technical decisions on the current models of the ram press were also made in Tanzania -- by Axel Utermohlen for the CAPU model and by ATI staff member Erwin Protzen for the CAMARTEC. Further testing and design modifications for the current models were carried out by ATI staff and consultants Carl

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Bielenberg, Jonathan Herz, and Tony Swetman -- during field trips to Tanzania and Zimbabwe, not in the United States.

"Similarly, design changes for the treadle pump were made by Carl Bielenberg in Senegal in conjunction with local manufacturers and were not transmitted to the field by faxes. The improved stove design used in Senegal is an adaptation of the Kenyan model, with local design improvements made in Senegal by a ATI consultant, Hugh Allen, and ATI/Senegal staff person, Cheikh Gueye."

6/1/12-20 Modify the statement that there is little feedback between manufacturers and ATI's staff and consultant engineers. Feedback during field visits has in fact led to extensive design changes. In some cases, ATI was working with a different set of manufacturers in the early stages of technology development and adaptation from those that are now involved in commercial production. (see 6/1/7-11).

6/2/2-4 Delete the incorrect statement "when project impact ... there is often little feedback on the results of the analyses. Raw data is sent to Washington, analyzed, and reported internally in ATI and/or to AID and remains there." Add " all of ATI's midterm and final evaluations are shared with ATI field offices and other project partners in the draft stage and comments are sought before finalizing the documents. Data submitted by projects for the IMS is compiled and analyzed, and the resulting annual report is shared with the field offices and project partners."

6/3/6 Replace "promised to leverage" with "contained fund leveraging targets of".

6/3/6 to 7/-/1 These numbers are incorrect. The text of the ATI-III CA contains a cumulative target of $39.236 million for the total program size of ATI, not $55.2 million. Moreover, the text of the ATI-III CA clearly indicates that the $39.236 million includes the $15 million in core funds provided by USAID/W, so the net fundraising target is $24.236 million. The Program Description in the CA states that, "Annual performance targets for funding received from other donors have been established based on ATI's own calculations of parlaying A.I.D.'s $15 million into a total program in excess of $39 million." Modify accordingly.

7/-/4-10 After "original ATI proposal" add for clarification and accuracy, "The revised target is that for every $1 of core funding, ATI was expected to raise at least $0.50 of direct funding and a total of $1 of direct funding and instrumental leveraging. This would imply a target of $15,000,000 of direct funding and instrumental leveraging given the total funding provided through September 30, 1994 under CA Amendment 12.

"While Amendment 12 did change the fundraising target, ATI's accelerated fundraising efforts showed excellent results from 1992 to 1994. ATI is well on the way to meeting the original (pre-Amendment) cumulative target of $24.236 million by the

end of September 1994 and has already met the amended target of $15 million. As of June 30, 1994, ATI had obtained commitments for $12,368,318 million of direct funding and $9,513,756 of instrumental leveraging, for a total of $21,882,074. Including the $15,000,000 of core funding and $2,000,000 in leveraging fund grants through September 30, 1994, ATI had achieved a total program size of $38,882,074.

"When the USAID/Senegal and USAID/Mali funding commitments that ATI has received verbal approval for are counted, the total funds leveraged increases to $24.084 million and the total program size amounts to $41.084 million. With these two new projects and other commitments expected before the end of the ATI-III CA in December 31, 1994, ATI will exceed the pre-Amendment fund leveraging target and the total program size target for the end of this CA."

9/2/1-3 Delete "In this respect, ATI has been rated low as it hasn't particularly targeted USAID missions and/or central bureaus ..." This statement is factually incorrect (see response to 9/2/7). ATI's actual numbers in buy-ins compare favorably with other USAID/G/EID programs.

9/2/7 The correct figure for USAID mission and bureau buy-ins (including grants, add-ons, OYB transfers, and instrumental leveraging) for the period September 30, 1989 to June 30, 1994 is $3,192,742. This figure excludes $878,019 from the USAID/Senegal PVO Co-Financing Project and $1,324,411 from USAID/Mali, in which ATI received verbal approval of funding in September 1994 and is awaiting written confirmation.

10/1/1-7 Delete the outdated discussion of four priority program areas, correct in 1990, but no longer applicable. ATI no longer has a separate program area for venture capital alternative financing systems and all ATI programs are now expected to commercialize technologies, follow a subsector approach, and have favorable environment/natural resource impacts where possible.

10/2/8-11 After "The only noteworthy item not completed is the strategy document on commercialization of technology ...this CA cycle" add "However, ATI did prepare a draft report and annotated bibliography on the experience with technology commercialization by a variety of governmental agencies, NGOs, and private companies."

12/item e/1-3 Delete "It appears that ATI has dropped the five-year business plan", since ATI will produce a revised plan over the next 12 months.

13/1/1-6, 14/1/5-7, 14/3/2-4, 15/1/2, 15/3/3-4, 16/2/4-6 Impacts on beneficiaries can be attributed to use of core funds. Without core funding, ATI would have been unable to leverage funds from other sources or contribute its own resources to programs. The programs would not have existed and their impacts would not have occurred.

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14/4/1-3 The number of producers benefited and the number of new and existing enterprises are impact indicators. The impact is the product of the average increase in income per beneficiary (or enterprise) and the number of beneficiaries (or enterprises).

14/last/2-3 and 14/last/last The indicator suggested by the evaluators, "how much was spent for every 1 percent increase in beneficiary income," is unrealistic because of the difficulties of estimating baseline incomes of farm households and enterprises with diverse, multiple sources of income. As a result, PVOs that measure impacts on income only estimate the net income gains associated with an assisted activity, rather than the percentage increase in incomes.

Informal sector enterprises generally do not want to reveal income information accurately and many do not keep written records on production, costs, and revenues. CARE notes that "Studies have shown that recalled information on income may be very inaccurate, varying by as much as 50 to 80 percent in some cases."[3] Similarly, it is hard to get good data on net income to raw material suppliers (particularly for agricultural commodities) and downstream processors and distributors.

16/2/1-4 Delete or modify the statement that "environmental indicators would seem more appropriate in evaluating impacts of projects in which either an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA) identified mitigative measures... project sites." An IEE or EIA are only required for projects that have the potential for negative environmental impacts, whereas many ATI projects are designed to have positive environment/natural resource impacts. ATI would therefore want to document these positive impacts, which are of concern to USAID, other donors, and policy makers and the public in the countries where the organization works.

17/1/1 Until late 1983, ATI did not work to develop and disseminate small producer technologies; the organization had been involved in information dissemination and institution building. Replace "seventeen" with "eleven".

17/3/2 Delete "small" and "pilot" in "manages small two to five year pilot projects". The $4.454 million Bolivia Alpaca Producers Project; 4-year, $1,620 million first phase of the Senegal Technology Transfer Project (which will be extended for 3 more years with additional funding of $878,000); and $8.655 million India Dairy Herders Project are not small or pilot efforts. ATI has been involved with the ram press for over 8 years.

17/3/3-4 For the same reasons stated in 17/3/2, delete "limited, highly subsidized pilot scale." Also add "While ATI does not generally subsidize production directly, it has

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[3]CARE. 1992. Small Economic Activity Development Module One: Evaluation Guidelines for Impact Evaluation. New York: CARE.

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frequently subsidized distribution and promotion of technologies in its projects because small-scale producers lack the knowledge of improved technologies and tend to be risk-averse. At the same time, manufacturers and potential vendors are not willing to handle a new technology until a certain level of demand has been established. However, subsidization of promotion and distribution is not required indefinitely."

17/5/last After "The replication and diffusion years, or Phase II, are not yet with us" add "However, ATI has begun efforts to promote the diffusion of hard and soft technologies to other organizations, particularly in the Regional OILS Program. Technical assistance provided to the World Bank on oilseed processing and small-scale irrigation for Malawi in 1993 and for CARE and Food For the Hungry International on oilseed processing in Mozambique are cases in point. Another example is found in two replications of ATI's small-scale coconut processing modules being planned in the Philippines without any ATI involvement."

17/last/3 After "with the exception of the Central America Small Producer Partnership Initiative ...seems to fall outside the system" add "This initiative is consistent with ATI's interests in institution building and promoting collaborations with partner organizations using teams of experts based in the region."

18/3/3 After "At the level of individual users of ATI's technologies, there are clearly positive impacts, they are better off" delete "or at least believe they are". This language unnecessarily casts doubt on a very positive finding for ATI. Economic theory presumes that small-scale farmers and entrepreneurs are the ones best able to judge whether their economic well-being has improved.

18/3/4-7 Delete or modify "over the years achieving impact through the introduction and commercialization of successful technologies has been illusive [sic]." See response to 2/3/5.

19/1/1 Delete the incorrect statement "ATI is not reaching its sustainability nor commercial viability objectives". See the general response.

19/2/1-2 To clarify a partially incorrect statement, after "it is surprising that an organization receiving the amounts of Federal funding ATI has over the years has no" add "portfolio-wide standardized" before "monitoring and evaluation system." Also, after "until 1993" add "However, since 1984 ATI has devoted considerable resources to extensive midterm and final evaluations of individual projects that have examined impacts."

19/3/5-6 Replace "in ten years a sum total of 1,330 sunflower oil presses are in use in both Tanzania and Zimbabwe" with "ATI's ram press dissemination activities began in Tanzania in 1986 and in Zimbabwe in 1989. Since 546 presses had been sold in

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Zimbabwe as of July 5, 1994 and 1,201 in Tanzania through June 30, 1994, the correct total is 1,747".

20/1/3-5 Correct that the Kenya stoves work began in 1981, not 1985, under a four-year, USAID-funded project implemented by the firm ED/I and the Ministry of Energy. Add "In 1986, an ATI staff person developed a motorized device for molding the stove liners (jiko jolly), which increased the production rate and the quality substantially."

Some of the other examples cited as indicating that ATI has worked in each of these areas for a long time are incorrect in that they actually pertain to very different types of projects in the same broadly-defined subsector. ATI's wool spinning project in Nepal involved much simpler technologies than those used in the Guatemala Wool Project, and the Bolivia Alpaca Fiber Producers Project relies on a completely different scale of technology than either of the two prior animal fiber projects. The earlier Philippines coconut processing subproject (of the venture capital project) involved a completely different set of coconut products and processing technology.

20/2/4 Add "each year" after "817 hectares" since this area of forest is saved for every year the stoves are in use.

21/3/1 to 21/4/4 It is unclear why the Evaluation Team considers it a negative impact for COPROCA that it must buy alpaca fiber at market prices, competing with other buyers on equal terms, including those from Peru.

21/5/2-3 Delete "veterinary services" in "as for veterinary services and fiber processing, no benefits have accrued to date." After AIGACAA, add "At present, veterinary supplies are loaned to the project veterinarians, who then sell these goods to the farmers. The problem has been that the veterinarians have limited time for commercializing these products; and the volume of sales does not yet provide sufficient income to an individual from the community who might sell these supplies. ATI is interested in exploring ways to improve this activity as demand expands.

"It is not surprising that benefits have not yet occurred in the fiber processing side of the Bolivia project; the processing plant was still under construction when the Evaluation Team visited. The plant is scheduled to be opened on October 27, 1994."

21/6/2 Most market gardeners in Senegal produce over three cropping cycles per year, not two.

21/6/6 Replace "dry season" with "off season" since most tomatoes in Senegal are produced in the dry season. Pests and disease problems are at their worst during the rainy season.

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21/7/1 Another reason for the increased yields may be the increased amounts of water delivered to crops. This factor would be especially important in the case of farmers with the wrapped screens for tubewells, which ATI also promoted. The wrapped screens have increased well recharge rates by 100 percent.

21/7/4 After "calculated by ATI" add "ATI's survey found that the gross income of a market gardener increased by $1,350 pre-devaluation, an estimated $593 post-devaluation."

22/1/2 Change "royalties" to "repayments" since this amount is not paid indefinitely. After "specifications" add "The lease-purchase fee for jigs and fixtures is only collected until their cost (including imputed interest) has been repaid. So far, all but two of the fourteen active treadle pump manufacturers have repaid this in full."

22/2/3 After "rice hullers, grinders, and feed mixers" add ", but the main product lines for most of the pump manufacturers are metal doors and window frames and bars".

22/2/5 It is a standard practice for small-scale artisans in West Africa to rely on apprentice labor. While the apprentices do not usually receive cash wages, they do receive training and many are provided with food and/or lodging and given some money to cover medical expenses, family emergencies, or extra costs during important religious holidays. Some workshop owners have even invested in new workshops established by their graduating apprentices.

22/2/7 After "infrastructure" add "The reason project investments were not needed to upgrade the equipment owned by the workshops is that one of the main criteria for selecting manufacturers for training in pump production is that there be an existing enterprise that already has the basic equipment needed (welders and drill presses, etc.). For greater cost effectiveness, ATI has not started up entirely new workshops. It does, however, sell the jigs and fixtures for manufacturing the pump."

22/3/4-6 Delete "However, another manufacturer reported that if he actually had to sell and distribute the pumps, and do the promotional and training work, he would not make a profit." This statement does not make sense because all pump manufacturers already have to sell and distribute the pumps and train buyers. Moreover, the manufacturer referred to here, Mamadou Cisse in Thies, denies ever making this statement. He asked that the evaluators telephone him to confirm that there must have been some miscommunication -- the evaluators were not fluent in French and did not have a translator.

22/3/10 After "these shops." add "ATI recalculates the production cost of the pump whenever a new manufacturer is interested in beginning production or there is a large change in raw material prices. In mid-1994, the raw materials cost was CFAF 19,925 per pump, transport for installation CFAF 4,500, and electricity CFAF 1,800, for a total

of CFAF 26,225. The few manufacturers who had not already repaid their obligation for the jigs and fixtures had an additional production cost of CFAF 2,200. At an average price of CFAF 42,500, most of the manufacturers have sizeable profit of CFAF 16,015 per press (37 percent of the wholesale price) since the cost of the apprentice labor is low."

22/4/3 Delete "training and extension services", which are not provided by the project to pump users (as acknowledged by the evaluators in Annex II-12/3/15-16).

Add "From the very beginning of the project, it has been the responsibility of the manufacturer (not the project) to negotiate a sale with a customer, deliver and install the pump, train the farmer in use and maintenance of the pump, and collect any loan repayments that may have been part of the sales agreement. The project has trained manufacturers to produce the pump and to demonstrate the technology and train buyers.

"All fourteen of the established treadle pump manufacturers currently sell and distribute the pump, and train pump users themselves (the project provides no subsidies for these costs). All fourteen manufacturers also undertake some pump promotion (e.g., production and distribution of flyers, display of pumps at visible commercial locations, collaboration with local merchants to publicize the pump, and regular contacts with prospective sales agents and customers).

"ATI is only involved in promotional activities at present -- conducting demonstrations jointly with the manufacturers and sponsoring radio and television commercials. Some of the manufacturers are now doing demonstrations on their own without any ATI involvement, and the others cover all of the costs of the demonstrations themselves except for the rental and fuel costs for a vehicle and ATI/Senegal staff time. Those manufacturers still being aided in demonstrations are receiving decreasing amounts of assistance.

"Due to the newness of the treadle pump on the Senegalese market and the lack of producer marketing experience and resources, support in the area of product promotion and advertising has continued longer than assistance in other aspects of pump dissemination. This has been an appropriate role for ATI, analogous to services governments often provide in agricultural extension. However, it is made clear to each manufacturer from the beginning that the marketing support will be removed by the end of the project." In II-1/2/8-9, it was noted that the pump and stove "are sought-after items" now, a fact which reflects well on the success of ATI's past promotional efforts. Add "ATI will be able to phase down promotional expenditures in the near future without adversely affecting the manufacturers.

"ATI's objective in the next phase of the Senegal project is to get the manufacturers, either individually or as a group through the recently created producers

association, to take over all promotional and advertising activities currently done by the project. By that time, the technologies will be more widely known in Senegal. However, whether the artisans are capable of supporting the costs associated with radio and television commercials or not, the other promotional activities will continue to be undertaken by the manufacturers, thus allowing them to go on developing the market and selling pumps.

"Based on the number of pumps sold so far (assuming no further sales) and all costs incurred to date (including sunk costs), the benefit/cost ratio for the pumps component is 5.65 for the pumps component. There is every indication that this ratio will continue to improve during the next stage of activities under new funding that has been approved from the USAID/Senegal PVO Co-Financing Project. Using projected figures, the benefit/cost ratio for the new project is expected to be 44 for the pumps component."

22/5/1 Delete "even at current high subsidies" since the project does not subsidize production costs or the consumers' purchase price. Add "As in the case of the pump, the only subsidies provided to the active stove manufacturers are indirect, through promotion of the technology in the form of demonstrations and radio and television commercials. Promotional efforts have been very successful thus far, as evidenced by the high sales and continuing demand for stoves. (It should also be noted that as an effort to slow deforestation, the stoves program provides a more cost-effective alternative to expensive reforestation programs.)"

22/5/3-4 Replace "Eleven thousand project stoves have been sold" with "As of June 30, 1994, 11,790 stoves had been sold by private sector manufacturers and vendors in the 32 months of sales. By August 31, 1994 sales had reached approximately 13,500."

22/5/5 Correct "1.5" to "1.6" and "$103/year" to "$108/year pre-devaluation and $99/year post-devaluation."

23/1/1 After "the sparse information" add "by the evaluators during a short field visit". No factual, quantitative information supports the assessment that "stove making, if left on its own today, could not survive."

23/1/1-2 Delete "who in contrast .. have no other business activity ...tell." Add "Nearly all of the metal artisans making the stove produced the traditional all-metal stove before the new stove. Many also produced a variety of other metal products before. However, most active Diambar stove manufacturers are not currently producing other products because it is more profitable to produce stove claddings than their previous products."

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23/1/2 Replace "alleges to have" with "stated that he had". The use of the word "alleges" unjustifiably casts doubt on the veracity of the producer's statement.

23/1/4 Delete "also" before "project financed." Advertising and promotion is subsidized by the project; stove production is not.

In fact, the Kenya experience directly contradicts such a conclusion (the Evaluation Team, in their oral presentation, acknowledged the commercial success of the Kenya program). In the trip report (II-1/2/8-9), the evaluators state that the pump and stove "are sought-after items." That point, which bears repeating here, reflects well on ATI's past promotional efforts and gives an indication that ATI will be able to phase down promotional expenditures in the near future without adversely affecting the manufacturers.

The conclusion reached here by the evaluators is also inconsistent with Annex II of the trip report (II-1/2/1-4), where the evaluators state that the treadle pump and stove "have wide applications amongst large numbers of small producers and low income and/or resource households, selected artisans, and marketing agents."

Add in a footnote "In the first 2½ years of the Kenya project, which continued for 4 years, 13,000 stoves had been sold; this is comparable to ATI's achievements in Senegal to date. The number of stoves sold in Kenya rose to 66,000 after 3 ½ years and 125,000 after 5 ½ years.[4] Now, over 13 years since the first design of the Kenya stove, reportedly some 500,000-800,000 have been sold through private sector channels."

23/3/1 Delete "Producers seem to be the project's agents." Producers are not the project's agents; and the project does not subsidize stove production.

23/4/2 Replace "needed kiln" with "a large, kerosene-fired kiln, which can produce liners at much lower cost than the 5 small electric kilns already owned by the enterprise and previously used for this task." Replace "donated by the British" with "with partial funding from the British Embassy."

23/4/3 Replace "He and his eight associates" with "The pottery enterprise has three partners and six hired workers. The enterprise..."

23/4/5 Before "They believe" add "In addition to the current rate of stove sales in Dakar, now running at 7,800 per year based on the first half of 1994, they believe". Replace "rural" with "urban towns".

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[4]Eric L. Hyman. 1987. "The Strategy of Production and Distribution of Improved Charcoal Stoves in Kenya." World Development 15: 375-386.

23/4/7 Add "Based on sales to date, the benefit/cost ratio for the stoves component of the Senegal project is 3.6. The projected benefit/cost ratio for the stoves component of the new funding that has been approved under the PVO Co-Financing Project is 18."

23/5/1-5 "The two manufacturers visited profess to be losing money on press production ... they probably are...their other product lines must cover the losses." The manufacturers' statements should be deleted or modified based on the following addition.

Add "The entrepreneurs themselves submitted their price bids to ZOPP. The fact that they continue to produce the press is evidence that it is sufficiently profitable for them to do so. As press production costs have fallen due to design changes, improvements in suggested manufacturing techniques, and competition among multiple producers, the manufacturers have reduced their wholesale price bids. ZOPP estimates that manufacturers' production costs are Z$900 for the CAMARTEC press and Z$1,050 for the CAPU. At these costs, press manufacturing and sale can provide an ample profit."

23/1/1-5 "Both manufacturers believe costs could be cut by changing some design elements. But apparently, there has been no communication with ATI engineers on the possibility of cutting some Z$300 from the manufacturing cost." See response to 6/1/12-20.

24/1/2-3 While it is true that press owners keep some oil for their household consumption, the bulk of their production is sold. Delete "if the supply lasts" after "can sell oil to the general public". Add "A survey in Zimbabwe in 1993 found that CAPU press owners reported processing an average of 30 bags of sunflower seed per year that they had either grown or purchased, compared to 13 bags/year for CAMARTEC press owners. This excludes service pressing done for other farmers for a cash or in-kind fee. About 70 percent of the individual press owners and 86 percent of the group press owners also did service pressing in addition to their own production.

"The corresponding figures for oil production are 420 liters per year in the CAPU and 195 liters per year in the CAMARTEC press. It should be noted that the local surveyor believed that press owners understated their true throughput of seed. Since typical rates of edible oil consumption in rural Zimbabwe are 12-24 liters per year, it is obvious that the bulk of the production is sold, rather than being consumed within the household."

24/4/2 After "its price is lower than other commercial oils" add "In addition, many people prefer the flavor and aroma of the cold-pressed oil produced by the ram press over the oil commercially produced in a motorized expeller, and the cold-pressed oil also has a higher vitamin E content."

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24/4/3-4 Delete "and the fact some are used for personal and extended family consumption and service pressing" for reasons cited in 24/1/2-3.

24/5/4 ZOPP does not set prices for the oil sold by the ram press owners in any way. Replace "The normal ZOPP price is" with "The team found, in limited field work, that the usual price was".

24/5/5 After "per 750 ml bottle" add "ATI's survey of 50 oil processing enterprises in early 1994 found that the average prices charged per 750 ml bottle were Z$6.62 for wholesale quantities and Z$7.28 for retail customers."

24/6/4-5 Since the one grower interviewed who did not sell sunflower seed to a ram press owner is contradicted as set out in the addition below, delete "However, one grower interviewed at random on the road, not connected to the project .. independent press owners would likely defer payment until after pressing or pay in kind (oil and cake)." Add "The survey of ram press enterprises found that all of those who purchased sunflower seed from local farmers in 1993/94 paid cash on delivery." (It should also be noted that the distance of this grower's farm from the nearest ram press owner is not provided.)

25/-/1-2 Delete the erroneous conclusion drawn in the statement "GMB prices are quite good, leading to the conclusion seed producers may not receive a better price from independent small press operators even if they are willing to wait for payment." If this were so, ram press owners would not be able to purchase seed from local farmers; that is not the case. (See also immediately preceding entry) (24/6/4-5).

25/1/2 Replace "viral" with "technical." After "problems" add "An excessively high proportion of the potatoes grown from the miniseed tubers have turned out to be stunted or not true to variety. While the cause or causes of this problem are still being studied, several possible explanations have been advanced -- 1) the initial germplasm (now 5-6 generations removed from the original source provided by CIP) used by Botanical Enterprises may be infected by viruses (and aggravated by the fact that the company lacks training, equipment, and antigens needed to test its production for viruses); 2) Botanical Enterprises' use of a solid medium rather than the standard liquid medium in microshoot propagation; 3) quality control problems at Botanical Enterprises caused by not inspecting and discarding the entire flask when any abnormal growth can be observed; 4) viruses introduced by miniseed tuber producers in sand-rooting; 5) contamination in storage facilities; or 6) viruses introduced by farmers in planting miniseed tubers."

25/3/3-4 The number listed for ATI's donors is incorrect. Replace "ATI raises funds from about 26 organizations ..." with "From September 30, 1989 through June 30, 1994, ATI raised funds from 41 organizations in addition to eight USAID missions or central units."

25/4/2 and 3 Replace "overhead" with "indirect costs."

25/6/6-7 It was at USAID's impetus that ATI de-emphasized institutional development, but it was never risky to mention the term in ATI/W. Replace "decision several years ago to de-emphasize institutional development (just to mention the term in ATI/W was risky)" with "decision in 1983 to de-emphasize institution-building following the recommendation of the 1982 evaluation of ATI commissioned by USAID".

26/2/2 Replace "charcoal savings" with "cash savings from reduced charcoal consumption".

26/3/4 The women's group referenced is, in fact, still operating. Delete "however, recent impressions are this activity may have ceased in an organized fashion as no mention of it was made to the evaluators". Add "The women's group at Beyti Dakar continues to make about 100 stove liners per month for the Thies market."

26/3/3 In "company or groupement of male artisans" delete "or groupement" since this is an established company.

26/4/2 and 26/4/6 Replace "armored" with "steel-tipped" before pestle.

26/4/7 After "the January-March 1994 field report from Senegal listed 181 armored pestles sold since commercial test marketing began in 1993" add "By the end of September 1994, more than 300 of the pestles had been sold."

26/5/2 Replace "partners" with "wives".

27/1/1 Delete "none of the activities specifically target women, although". The prevailing viewpoint in the women in development literature is that programs should integrate women into the mainstream of economic activities, rather than segregating them in their own special activities; the statement as is, however, reads as a criticism.

27/1/3 Replace "virus" with "technical" before "problem". After "solved" add "Reaching 29 women out of the 104 trainees is a significant achievement in Nepal, where women face a heavy workload and a multitude of social responsibilities and constraints."

27/1/6-10 Delete "The evaluator suggested perhaps villagers might segregate the seed business into specific roles for men and women ... not one supported this concept." The suggestion made runs completely contrary to local custom in Nepal and would probably result in women being assigned the least remunerative or most arduous tasks.

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27/2/11 Delete "yet in training activities, the numbers do not support women's important role in alpaca and llama herding sectors." Add "ATI's Alpaca Producers Project is one of the most progressive initiatives for rural women in the country and one-third of the recipients of training were women."

28/1/2-3 After "This is inconsistent with the economic activity where more than twice as many women reported monetary benefits ... as men", add "However, the fact that one-third of the participants who have undergone the training are women is no small accomplishment in the Bolivian *altiplano* where women often find it difficult to attend training sessions due to their workload and social responsibilities. The percentage of the trainees who are women compares well to that of other agricultural development projects in Bolivia.

"The Bolivia project began a special program to assist women shepherds in March 1994. Focus group and training sessions were conducted under a subcontract with SEAM (Servicios Técnicos para la Mujer) to assist women in their specific roles in the alpaca production and product commercialization cycle in Bolivia. This new program was a response to a study conducted in 1993. The project already has numerous requests from U.N. and other international development agencies for the questionnaires developed for information gathering and analysis and the first report generated through this effort."

29/4/2-7 Prices are not set on instructions from Washington or local project offices. Delete "prices of presses, pumps, and stoves have purposefully been kept low on instructions from ATI Washington to ensure that they are affordable to very low income people ...not permitted to become viable under real market conditions."

29/last/1 Delete "Nepal" from the list. Realistically, it cannot be claimed that large subsidies have been provided for anything under the Nepal potato project. Add "Total project expenditures to date are just $82,772 and only a small portion of this amount was used for the subsidies for farmer training."

29/last/2-3 Replace "While the user training is less for stoves and pumps in Senegal than for oilseed presses in Zimbabwe" with "While ATI does not subsidize user training for stoves or pumps in Senegal, it does subsidize user training for ram press buyers in Zimbabwe, although ZOPP does recover a portion of this cost in the margin it charges over the wholesale price of the presses."

29/4/last to 30/-/2 The promotion and distribution components of the Senegal project are quite different from those of the Zimbabwe project. Delete "in Senegal and" as well as "are similar" in "The promotional and distribution components of ATI's systems in Senegal and Zimbabwe are similar..."

30/1/1 The term "heavy" before "subsidies" is not defined. Other independent observers might disagree with its applicability given the actual dollar amounts involved. Delete "heavy" before "subsidies" here and elsewhere.

30/1/4 Delete "Highly subsidized social pricing". There are many examples which show ATI's reliance on market price incentives. Add "ATI has encouraged a market orientation from the start of activities such as:

"Coconut processing. The coconut processing modules are all based on locally produced Philippine equipment, made by existing private sector manufacturers of expellers and the copra dryers produced by the University of the Philippines-Los Banos Foundation (UPLBF). Both are selling their equipment at a profit (the UPLBF has even exported 180 dryers to Papua New Guinea). Business plans with full market prices for equipment and distribution costs have been developed for each coconut processing module. Market pricing is in effect as evidenced by the fact that over the past year, two small-scale oil mills using the model developed by UPLB/ATI have been established by groups without any assistance from ATI. These groups secured bank loans for the enterprises and bought all equipment from existing private sector manufacturers.

"Rhizobium. The rhizobium commercialization efforts in India, Sri Lanka, and the Philippines involve private sector production and distribution with market pricing. The technical training provided by ATI in Thailand emphasized the importance of private sector production and distribution.

"Non-Timber Forest Products. The Nepal Humla Project is sourcing essential oil processing equipment from manufacturers in India. Bids were solicited and the project did not artificially limit the purchase price or subsidize the purchase price of the equipment."

30/2/4 Delete "And this is the problem with trying to manipulate and create markets through subsidization" since ATI does not manipulate markets.

30/2 Delete "under ATI's centrally planned pricing system". The tone of this statement is inappropriate and the substance incorrect. ATI does not set prices for technologies; ATI helps build entrepreneurial capacity and productive business activities.

30/4/4-5 Delete "The big question becomes, how much a subsidy [sic] is ATI capable of maintaining or are ATI's donors willing to put up to sustain the product non-commercially and for how long?" ATI does not maintain products non-commercially -- production and sale are done on a purely commercial basis.

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30/6/4-5 Delete "Without an exit time frame, pilot projects go on indefinitely. If the pilot phase must continue indefinitely, this is an indication of non-viability of the technology." This statement implies that ATI plans to continue project support of each technology indefinitely, which is incorrect. For example, in Senegal, ATI has no plans for further expenditures on treadle pumps or stoves after 1997.

30/last/2 Delete "non-commercially viable" before technologies. Firms producing the technologies in use are currently earning a profit. An S-shaped curve in acceptance of new technologies is a common phenomenon -- slow at first, then rising rapidly at an increasing rate once the take-off stage is reached, and then slowing as the market becomes saturated. As long as private sector manufacturers are producing a technology at a profit (and it is clear that they would not continue to produce if that were not the case), the technologies are, in fact, commercially viable.

31/1/6-7 After "continued subsidies to the" delete "ostensibly commercial manufacturing". Add "ATI does not subsidize manufacturing anywhere. ATI does not subsidize distribution and user training in Senegal. While the Zimbabwe Oil Press Project (ZOPP) has been subsidizing distribution of the presses and user training, the level of this assistance has been declining.

"ATI agrees that an exit strategy is needed for ram press promotional efforts and has been developing strategies to move toward a more commercial approach. Well before this evaluation, ATI hired a consultant, Andrew Macpherson, to examine ways in which subsidies for technology promotion and distribution could be eliminated in the Regional OILS program by relying even more on commercial, private sector mechanisms.[5] Since July 1994, he has been on ATI's field staff as Commercialization Coordinator/Regional OILS Director and is based in Zimbabwe.

"In May 1994, ATI held a meeting of key OILS program staff to focus on commercialization strategies; the proceedings of this meeting were made available to the Evaluation Team. As recommended in these discussions, ZOPP has already started working through sales agents, who receive a 7-10 percent commission on the presses they sell. This is in addition to the 21 percent margin ZOPP now charges over the wholesale price to cover more of the distribution and user training costs."

31/3/7-8 Replace "it is irresponsible" with "it may be unrealistic" before "to assume that Congressional interest ... assures ATI of indefinite Federal funding." After

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[5]Andrew Macpherson, Zimbabwe Oil Press Project (C93-0122). Implementation Arrangements Review and Recommendations. August 26, 1993, prepared for ATI.

Andrew Macpherson, Tanzania Village Oil Press Project (C93-0158). Status Review and Program Recommendations for Development of a Sustained Commercially Viable Outreach. May 9, 1994, prepared for ATI.

"Federal funding" add "However, many other development assistance programs started by Congressional initiative have continued to receive both core and program funding indefinitely, among them, the African Development Foundation, Inter-American Foundation, the Asia Foundation, the Peace Corps, and USAID."

31/4/8 After "multilateral and bilateral donors" add "ATI has made substantial efforts to raise funds for the direct costs of program activities from other donors and has been quite successful in this regard. Yet, while other donors are interested in funding good field programs, they are generally unwilling to provide core funding for a U.S.-based institution. It is unrealistic to expect that large bureaucracies or small foundations that have a policy against paying for the indirect costs of programs ("overhead") can be educated by a small PVO."

31/last/1 Before "In the absence of an endowment or another source of unrestricted income," add "General support cannot be secured from other governments; foundations; multilateral institutions; or, to any significant degree, the private sector. Nearly all other donors will only support implementation of specific projects that they approve. Few donors will pay for the development of strategies, technology R&D or adaptation, project identification, and feasibility studies necessary for successful project design.

"In the absence of general support, no combination of overhead recovery, realistic management fees, or unrestricted corporate donations can fill the gap. Corporations are unlikely to provide more than token donations ($5,000 here and there) and this would require expending more of senior management's time than could be justified by the returns. That has been the experience of the World Resources Institute and many other organizations.

"A for-profit consulting firm is a theoretical possibility, but this would move ATI away from the purposes for which it was created. Furthermore, the big money in contracting does not lend itself to development strategies for low-income small producers. While ATI staff have been contracted out for short assignments that earn overhead and management fees, this is generally only done when it also has a potential payoff for program development."

31/last/4-5 Delete "and possibly profits from businesses that might be set up in the future to manufacture proprietary technologies". After "self-sufficiency" add "ATI cannot patent technologies developed with Federal funding or funding from many international development assistance organizations. In addition, low-cost technologies suitable for manufacturing and use by the rural and urban poor are often unpatentable in practice because they can be easily copied. Nor would it be desirable for ATI to maintain proprietary technologies or compete with manufacturers in LDCs since the main objectives of the organization are to promote widespread adoption of improved technologies and stimulate indigenous businesses in these countries."

32/1/3 Delete "it continues projects indefinitely as pilots". Add "While it was ATI's mission prior to September 30, 1989 to design and implement experimental or pilot projects, the organization has gone well beyond this stage since then." The conventional definition of a pilot project is a "tentative model for future experiment or development."[6] According to this definition, ATI's regional programs for expansion and replication of earlier activities are not pilot programs because they are already providing direct economic benefits to a substantial and rapidly growing number of people. ATI's multi-country program that has sold over 1,620 oil presses and its national program that has sold nearly 12,000 stoves in three years are well beyond what is conventionally termed a pilot project by most development professionals. See also the response to 30/6/4-5.

32/2/7 Replace "production" with "distribution" after "commercial" since ATI does not need to make a transition to commercial production; this is already the case.

32/3/3 After "The selling price" replace "urged by ATI Washington" with "charged by private manufacturers" because ATI does not set prices for technologies, either from Washington or local project offices.

32/3/4 Delete "nor R&D expenses associated with the technologies". Add "It is neither necessary nor desirable for private manufacturers of any goods to charge prices that recoup sunk costs of public sector R&D. Microeconomic theory suggests that prices should reflect marginal costs of production and that resource allocation decisions in the present should not consider sunk costs.

"A comparable example in the area of development assistance is that of oral rehydration therapy, which is now available through commercial products after having been developed and promoted by UNICEF and USAID. If all of the sunk R&D costs in developing this product and the subsidies for promoting it were added to the manufacturer's sale price of the product, the cost per unit sold would also appear to be much higher, but that is irrelevant to the private producers, who are earning a profit over *their* marginal costs in producing this product."

32/3/5-7 Delete "Going commercial for ATI's ...seems to mean small scale test marketing to determine product acceptance." Add "The number of units of ATI's oil presses, pumps, and stoves sold exceeds what would normally be considered small-scale test marketing in these countries. The Nepal Potato Producers Project, however, is still in the small-scale test marketing stage." See also the response to 32/1/3.

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[6] American Heritage Dictionary. 1991. Boston: Houghton-Mifflin.

32/last/6 After "ATI is operative and in the middle of" delete "developing, manufacturing, and." It is an appropriate role for ATI to be developing technologies, when necessary, although in most cases ATI adapts technologies that have remained in labs or research centers without being commercialized or are in use in other parts of the world but have not spontaneously spread to different regions. While large companies in developed countries can sponsor their own R&D (when they do not piggyback on what governments have supported), small-scale producers in LDCs lack the capacity to fund or carry out R&D appropriate for their scale of production and generally do not have adequate access to extension services. Other than training manufacturers, selling jigs and fixtures, and providing quality control services, ATI is not in the middle of manufacturing.

33/1/2 Delete "pilot" before "projects".

33/2/last Delete "For this reason ATI's projects will likely continue, perhaps indefinitely, in the pilot mode" for reasons cited in 32/1/3 and 30/6/4-5.

33/3/4 Delete "pilot" before "project".

33/3/6-7 Delete "This will assure increasing subsidies rather than the reverse". There have been declining subsidies over time, rather than increasing ones, in Senegal and Zimbabwe. Add, "For the period January through September 1994, the Senegal project's marginal costs were only $170 per pump and $11 per stove. During the period of the PVO Co-Financing Project, the expected marginal project cost is $80 per pump and $10 per stove.

"As manufacturers' wholesale price bids have declined, ZOPP has kept the retail price at the original level so it could reduce the subsidy to the buyers in transport and training. ZOPP plans to eliminate this subsidy and relinquish its role in distributing presses entirely. Repair artisans trained by ZOPP now stock spare parts for sale locally. ZOPP no longer covers the costs of repairing presses. ZOPP has reduced its subsidies in other parts of the subsector as well. It initially promoted cultivation of hybrid seed, but has since exited after demonstrating to Pannar, a private sector company, that there was sufficient demand for the hybrid planting seed to establish a decentralized supply network. The project has also exited from providing extension services for sunflower cultivation in favor of the government extension service.

"As the press becomes well-known in the country, it will no longer be necessary for any entity to continue a major campaign of demonstration and promotion. Manufacturers would then just have to advertise their prices and location. They or their sales agents would provide transport and user training services. After ZOPP finally resolves manufacturing problems with OILS assistance, it plans to exit from the role of serving as an intermediary between manufacturers and press buyers."

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33/4/2-3 Delete "Project employees are aware of the need to set real prices based on total costs, but this has apparently not been a priority as ATI seems more intent on producing and distributing large numbers of tools/technologies as opposed to institutionalizing viability." Add "ATI does not set prices in the Senegal project. Retail prices of oil presses in Zimbabwe reflect the competitive bid-driven wholesale price that ZOPP pays for presses plus a small margin that does not completely reflect transport and training costs. This assistance to press buyers and manufacturers is being reduced; eventually, manufacturers will begin direct sale of presses and will assume transport and training responsibilities, passing on these additional costs to press buyers."

33/4/5-6 Delete "which if a business had to assume them certainly would price ATI's technologies out of the market". Add "In Zimbabwe an increase in the oilpress price would not jeopardize its profitability for purchasers. Cashflow analyses prepared for Zimbabwe in 1994, Malawi and Uganda in 1993 and Tanzania in 1991 indicate that rural oilseed processing is so profitable at a reasonable capacity use rate that the price of the ram press could be substantially higher and still leave plenty of incentive for people to buy the press. Similarly, cashflow analyses prepared for the treadle pump in Senegal in 1993 and 1994 and for improved stoves in 1994 show that the cost of these technologies can be recouped in just a few months because their use is highly profitable."

33/4/8 Delete "Very heavy" before "current subsidies" and delete "production" after "subsidies for".

33/5/2 Delete "highly" before "subsidized".

33/5/3 Delete "pilot-type" before operations".

33/5/5-9 Delete "If [sic] fact, cumulative figures presented in all ATI's reports are misleading, as they fail to show marginal increases (or decreases) and because no comparison with cumulative costs, including subsidies, is made on the other side of the equation." Cumulative sales figures are not misleading and annual figures can easily be derived from them. Moreover, the focus here should not be exclusively sales versus project costs, but rather should include consideration of economic benefits of manufacturers and users of ATI technologies.

33/last/1-3 Delete "Fourth, if replicability is a criterion... it is difficult to envision the Bolivia project, which includes a $1.2 million plant, being one that will be a candidate ... strategy." Add "However, the cost of this project is not high compared to numerous other projects aimed at similar target groups, such as the $37 million aborted World Bank project. The benefit/cost ratio of similar efforts elsewhere, not just the cost, is the relevant criterion for replicability. The benefits from replicating the same basic approach could be quite high with other fine, high-value animal fibers. Other

domesticated animals with high-value fiber that has good potential can be found in Nepal, Tibet, and some of the Newly Independent States of the former Soviet Union.

"Moreover, replication potential is not just a matter of being able to pick up a project and transplant it in its entirety to another location. Replicability does not necessarily mean the same types of animals and set of technological interventions. It refers to a whole series of project elements, including processes for selecting and transferring technologies.

"The systems developed in the Bolivia project for livestock upgrade, pasture management, and animal husbandry methods and to collect, purchase, and transport the fiber from remote areas of the altiplano are very relevant in assisting animal fiber producers elsewhere, who face similar problems of limited access and resources. Similarly, product marketing strategies employed in Bolivia are also applicable to other fine animal fibers and would serve as an excellent example of what could be accomplished. There are also elements of the lessons learned from the development strategies used in Bolivia that contributed to the design of a program in an entirely different subsector -- dairy herders in India."

34/-/1-2 Delete "On the other hand, the extension type services provided by the project could be replicable in other projects, but only on a subsidized basis." Extension assistance by its very nature is a social investment (or subsidy) whether in an LDC or developed country. The relevant measure of extension and other government services which are by definition subsidies is whether the benefits exceed the costs.

34/1/3 Delete "low impact pilot" before "projects".

34/1/6, 34/2/2 Delete "pilot" before "projects".

34/1/8 Delete "pilot" before "mode".

34/2/2-3 Delete "that work on a very small, highly subsidized, noncommercial basis".

34/2/2 Delete "This is inherently contradictory to the claims of moving to commercial viability that ATI makes."

34/4/1-3 Here the draft confuses the fundraising targets of the CA and the Leveraging Fund. After "$1.00 of AID" add "Cooperative Agreement" and Replace "$7.5" with "$0.50" before "in new direct funding" as well as "in instrumental leveraging." After "instrumental leveraging" add "ATI has also established its own internal goal of leveraging a total of $10 in direct or instrumental leveraging for each $1 of the Leveraging Fund grant used."

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34/4/3-5 Replace "On the basis of $1.45 million of leveraging funds committed through 1993, ATI leveraged $18.11 million in funding commitments, or a ratio of about 12 to 1." with "On the basis of $1.615 million in leveraging funds committed through June 30, 1994, ATI leveraged $21.882 million in funding commitments, or a ratio of 13.5 to 1."

34/4/5-6 Replace "Of this sum, $11.7 million are direct commitments and $6.4 million instrumental leveraging commitments, on which ATI does not earn overhead or have any fiduciary responsibility as funds flow directly to ATI's partners" with "Of this sum, $12.368 million is in direct funding commitments (which can potentially generate overhead recovery) and $9.514 million is in instrumental leveraging commitments (on which ATI does not earn overhead or have any fiduciary responsibility as funds flow directly to ATI's partners)."

34/4/11 After "AID/AFR/ONI)" add "other federal agencies (U.S. Environmental Protection Agency)".

34/4/last After "Without a doubt, access to these development resources is a direct result of the leveraging fund" add "and core funding provided by USAID". Other donors are happy to provide funding for specific programs, but they are not generally willing to cover general institutional support.

35/1/3 After "Feeding Systems" replace "(5.2 million)" with "($2.770 million of direct funding and $5.652 million of instrumental leveraging)". After "Coffee Producers" replace "($1.2 million)" with ($0.3 million of direct funding and $1 million of instrumental leveraging)".

35/2/9 After "UNDP" add "and other donors".

35/2/15-17 Replace "As technical and development management persons divert attention" with "If technical and development management staff divert too much of their attention".

35/4/2 After "ATI sponsored credit programs." add "In many cases, ATI encourages project participants to draw on other sources of credit, rather than administering a new loan fund specifically for the project. For example, the Senegal project did not have the budgetary resources to provide significant loan capital to manufacturers and sellers. However, some have received loans from existing financial institutions that offer credit to small-scale producers -- ACEP and the EDF Small and Medium-Scale Enterprise Project located in the Fleuve Region. In some cases, ATI has intervened on behalf of these parties seeking loans to serve as a reference. As stove and pump manufactures become more confident that the demand for the product is growing, they will become more willing to seek out loan capital from existing sources, something ATI has always encouraged them to do."

36/4/2 Replace "$2.3 million" with "$8.422 million".

36/4/3-4 Replace "using potential carbon reduction offset legislation to convince them to invest" with "interested in contributing". AES/TAU came to ATI after they heard ATI was working on greenhouse gas reduction through strategic livestock feed supplementation for small-scale dairy producers in a developing country.

36/4/8 Replace "$2.3 million in direct funding and $2.9 million in indirect leveraging" with "$2.770 million of direct funding and $5.652 million of instrumental leveraging".

37/5/3-5 Delete "When combined with ... implementation and monitoring ..." ATI reports on its portfolio of nine commodity subsectors with only two distinctions: operations vs. new business development. Thus there are 18, not 72 classifications.

38/4/3 Replace the inappropriate phrasing "its worn-out assertion" with "that".

38/4/last After "$20 million per year!" add "It should be noted that other development assistance institutions created by Congress receive funding of this order of magnitude. For example, for FY94, the Inter-American Foundation received $30,960,000 and the African Development Foundation received $16,905,000. Similarly, the World Bank and UNDP continue to receive replenishments of funds from the U.S. Government, as do USAID and the Peace Corps."

38/5/1-3 The premise is a faulty characterization of ATI's programs and does not represent "ATI's thesis". Delete "pilot projects reaching relatively few beneficiaries at high cost for products with only limited potential for *ever* reaching commercial take-off, then it can accept ATI's thesis..." See 23/1/1 for a counter-example of the very real potential for commercial take-off in Senegal based on the proven experience in Kenya with a similar technology and commercialization strategy.

38/5/3-5 After "This team, however, maintains ATI has no entitlement to Federal funds and should be treated as any other private, nonprofit development organization." add "Nevertheless, ATI is in fact different from any other private, non-profit development organization" because of its history of having been established by Congress to meet a perceived gap in USAID's program. Congress felt that this gap could best be met by a smaller and more flexible nongovernmental organization with an independent, self-perpetuating Board. Over time, Congress has continued to emphasize its support for this organization. While ATI now has registered PVO status, it is best described as a private not-for-profit development corporation with NGO, PVO, and governmental and quasi-public institution characteristics.

38/6/4-6 Delete, "Rather than bury its head in the sand hoping the question disappears, ATI must take steps to become self sufficient from the Federal trough." It

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should also be noted that the 1994 Evaluation Team is at odds with the 1992 Evaluation Team's views on this issue:

> Attitudes expressed by some AID staff create a suspicion that they would simply like to remove the ATI budget from AID and, therefore, define sustainability as funding independence. Even without cost estimates for the various development cost categories, one can say that this definition of sustainability (which might be termed self-sufficiency) is not appropriate to ATI or any other development organizations serving the "equity" mission.
>
> The basic reason self-sufficiency is inappropriate is that bearing program development costs are a continuing, basic function of the goals and objectives, not something that is simply an up front or time-limited cost, which is not borne again. Such costs are repeated as ATI works with new organizations, develops soft technologies to disseminate hard technologies, continues to adapt technologies of all types in different contexts, assists NGOs in poor countries with project development, and performs other functions to promote development that provides benefits to the poor in low-income countries.
>
> Nor does ATI-III state anywhere that ATI should position itself to continue without AID support when the CA ends. Continuing AID assistance at some level, in some form, will be required. The issue will be determining at what level and in what form. ATI has made significant progress in adopting more market-oriented, businesslike and competitive attitudes, behaviors, and activities -- the keys to eventual attainment of sustainability.... Funding diversification is still a key and capital is an essential part of the solution.[7]

38/6/8-9 Delete, "To ignore the self-sufficiency/sustainability issue...is irresponsible on the part of the board and management." ATI has made substantial efforts to raise program funds from other sources, as the 1994 Evaluation Team acknowledges, but this does not negate the need for core funding.

39/2/4-5 Regarding financial independence and self-sufficiency, see response to 38/6/4-6 Developing a plan for ATI to achieve financial independence by the year 2000 is not listed as one of the funding options in the Executive Summary on p. ix. Add it as option 5 to the Executive Summary.

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[7]Ron Stegall, Peter Bearse, Diana de Treville, and Richard Solloway. 1992. Midterm Evaluation of the Cooperative Agreement (ATI-III) Between Appropriate Technology International and the Agency for International Development. Arlington, VA: Winrock International Institute for Agricultural Development, Prepared for USAID.

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39/3/4-5 Add "five-year" before "business plan". Delete "the practice of which ATI seems to have overlooked or dropped in 1993 and 1994." Five-year plans are not commonly produced every year.

39/4/10-11 After "donor financing needs to be raised, fees to be earned" add "(recognizing, of course the lag time and uncertainty of dealing with most major donors)".

40/1/4 Delete "and doctoral scholars".

40/3/1 After "five action decisions" add "for USAID."

40/4/1-2 After "decision to extend the cooperative agreement was made" add "by USAID".

41/1/2-3 Replace "and the amendment is still not signed (September 5, 1994)" with "before the amendment was signed by USAID on August 26, 1994."

41/4/3-4 Replace "Business plans are no longer prepared" with "ATI is in the process of preparing a new five-year business plan."

42/3/1 The statement that the staff has stand-alone computers except for F&A which is on the Novell network, is incorrect. The staff has been using the LANtastic 6.0 network since April 22, 1994.

42/6/2 Replace "Detail is not sent" with "The current system passed the rigors of independent Audits of Federal Awards in accordance with OMB Circular A-133 as well as acceptance of those audits by the USAID Inspector General for the periods covered in this report."

42/6/3 Replace "Lacking are bank reconciliations" with "The field operations retain the detailed records that support the summary reports sent to ATI/Washington for in-country audits, for example bank reconciliations ..."

43/-/5 After "local audit firms" add "approved by USAID".

44/2/2-3 Since all local audit firms are approved by USAID, delete "Whether these firms are on AID's 'approved' list is unknown and whether or not these firms audit in accord with auditing procedures meeting Federal standards is also unknown." All local office and project partner audits meet generally accepted accounting principles and satisfy the A-133 requirement that they be done by USAID-approved auditors.

44/3/1-2 Delete "and is the first time ATI gathered data on a uniform and comprehensive basis." ATI worked to establish a Project Monitoring and Evaluation

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System in 1984-85 and found implementation extremely difficult given the diverse range of projects that characterized ATI's portfolio at that time in accordance with the previous ATI-II CA.

44/3/6-7 Replace "Rather, they focused primarily on the economic viability of the technologies employed" with "Midterm and final evaluations examined project progress against planned activities, targeted outputs, technical aspects of the project, institutional arrangements, and social impacts as well as the economic viability of the technologies employed."

44/last/3 to 45/-11 Delete entire sentence "Such projections..." The number of clients in ATI's portfolio is of the same order of magnitude as ACCION's programs, which is lauded for the achievement. Factual errors of examination regarding programs in Senegal and Zimbabwe have led to inaccurate conclusions of very high subsidies detailed throughout the evaluation draft.

45/2/1 This is not listed as one of the funding options on p. ix of the Executive Summary. Add it as option 6 to the Executive Summary.

45/4/1-9 Delete entire paragraph "Attempts to keep ATI close to AID..." The Scope of Work for the evaluation requested an examination of the ATI-III Cooperative Agreement period -- (September 30, 1989 to date). The commentary on the relationship between USAID and ATI in the late 1970s is irrelevant. It is doubtful that Roberto Castro, the principal Technical Manager at USAID for ATI during the ATI-III period, or David Johnston, who headed that unit within USAID, would characterize the relationship between the two organizations in the manner described in the paragraph as a whole. There is also no basis to the allegation that ATI's target partners are anti-American.

Add "During the ATI-III period, the organization has begun to work closely with USAID missions that have similar program priorities. From September 30, 1989 through June 30, 1994, ATI received direct funding of $1,738,088 and instrumental leveraging of an additional $239,581 from five USAID missions. In addition, ATI has proposals for $3,732,042 of direct funding pending with 5 USAID missions, including two that had not previously worked with ATI. The figure for pending proposals includes the approximately $878,019 from USAID/Senegal and the $1,324,411 from USAID/Mali, for which ATI has received verbal approval and is awaiting official written confirmation."

45/5/1-5 Delete "During certain periods of ATI's history, AID, ...demonstrated by its actions it was not apprised sufficiently of ATI's activities ... AID's response was to tighten its control ... project planning and monitoring." Again, this is irrelevant to the SOW and the relationship between ATI and USAID during the current CA.

45/last/2 Criticisms of the "Small is Beautiful aura" fail to acknowledge that ATI has adopted a more sophisticated approach to development involving multiple interventions along the value chain of a given economic subsector.

46/1/1-8 Delete the entire paragraph "During the 1980s ... the friction." This discussion is outside the Scope of Work of the evaluation. Also, the term "noncompliance from AID's perspective" is inappropriate since ATI has fulfilled all of the legal requirements of its original Grant and the previous ATI-II Cooperative Agreement.

It would be highly relevant to an evaluation of the ATI-III CA to discuss examples of ATI's collaborative efforts with a wide variety of organizations, as the CA encourages. Examples that should be added are listed below:

ATI's Coconut Processors Project includes collaborations with the Department of Trade and Industry, Philippine Coconut Authority, University of the Philippines at Los Banos, local NGOs, and farmer producer groups. Project staff have also been in contact with the World Bank, USAID - ASAP Program, European Community, GTZ (German), Natural Resources Institutes (NRI), Ayala Foundation, and other institutions doing work in coconut.

In planning non-timber forest product projects in Nepal and India, ATI has approached private sector companies such as the Body Shop and firms marketing essential oils in India, as well as relevant government agencies and research institutions.

ATI has many non-donor partners in the Regional OILS Project, including CAMARTEC/Tanzania, CAPU/Tanzania, WUSC, the Natural Resources Institute/United Kingdom, and VOPSIN/Kenya to provide a full range of expertise. In Zimbabwe, ATI's project has worked closely with Ministry of Agriculture, Dept. of Extension, which is promoting hybrid varieties and improved cultivation techniques for oilseeds. In Zimbabwe, ATI has had discussions with a USAID-funded project that does subsector-specific business training and is developing a concept paper for a possible collaboration.

In Uganda, ATI is conducting demonstrations for more than 200 NGOs and women's groups in Lira and Apac districts. OILS is currently negotiating a partnership with ApproTEC in Kenya, which is headed by a U.S. expatriate who has been involved in oilseed processing there since 1987. OILS is also negotiating a relationship with KREP, a microenterprise credit program based in Kenya that was established through a USAID project.

Moreover, ATI has held two international conferences in Africa on the ram press for the benefit of other organizations. At the second conference in Nairobi in 1987,

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over 80 organizations from West, East, and Southern Africa attended. Since 1989, ATI has provided substantial technical assistance to many institutions involved in the oilseed subsector in Africa, as the following list indicates:

Africare/Zambia
CARE/Mozambique
CARE/Lesotho
Food for the Hungry International/Mozambique
Christian Service Committee (CSC)/Malawi
International Rescue Committee/Somalia
UNICEF/Malawi
UNICEF/Mozambique
Catholic Relief Services/The Gambia
GTZ/Mali
Technical Consultancy Centre (TCC)/Ghana
UNICEF/Tanzania
LVIA/Tanzania
GTZ/Tanzania

46/4/1 After "development" add "precede and ..."

47/1/1 See ATI's general response to the issue of subsidies.

47/2/4-6 Delete "ATI has been astute in the presentation of its Small Producer Development Paradigm and project descriptions and documentation recently generated reflect much of AID's current thinking". As stated, ATI's written strategies preceded USAID's 3/94 statement.

47/3/3 Delete "claims to". ATI can document increased incomes and employment of the poor.

47/4/2 Replace "aura" with "perspective".

47/2/3 Delete "particularly in the Africa programs" since this is also true for the Asia and Latin America programs.

48/2/all Delete "both paragraphs".

48/3/2-3 See response to 17/5/last.

48/5/1-2 Delete "The petard on which ATI is hoisted is called social pricing. Pilot project prices are arbitrarily and artificially held low, in keeping with ATI's philosophy of targeting very poor people."

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ATI has never promoted social pricing. In addition, the evaluation draft needs to acknowledge ATI's efforts to convince donors, government agencies, and local NGOs that more commercial-minded initiatives are needed to improve the economic conditions of small-scale producers.

48/5/3 Delete "after decades of piloting". Demonstration projects for technology commercialization were not an objective of the organization until the ATI-II Cooperative Agreement that began on September 30, 1983. Moreover, most of ATI's activities after 1990 do not constitute pilot projects. See response to 32/1/3.

48/6/5-6 Delete "Key overseas offices are managed amateurishly". This statement is unsupported by fact and is demeaning to ATI overseas staff.

48/last/2-3 Regarding the suggestion of contemplating the real rates of subsidy and the benefits, ATI has done this already for the Senegal program and the results are impressive. The treadle pump component of the Senegal program has yielded a benefit/cost ratio of 5.65 ($3,498,500 of gross benefits divided by total project costs of $512,800). This benefit estimate is conservative because it does not include the benefits from repeat purchases of the pump after the initial pump is worn out either during or after the project.

The benefit/cost ratio for the stoves component is 3.6 (based on monetary benefits of $2,605,100 and costs of $642,000). The benefit estimate for stoves is also conservative because it does not assume that owners of improved stoves will replace Diambars with stoves of the same type, which is likely to be the case. It also does not include the external benefits of the favorable environmental impacts of saving trees.

48/last/3-4 Delete the erroneous and misleading assertion that "These subsidies are so exaggerated as to make any plan for ultimate commercialization unrealistic."

48/last/5-6 If low-income people in LDCs cannot afford manual pumps and oil presses, they certainly cannot afford the much higher capital costs and the operating, maintenance, and replacement costs of motorized pumps and oil expellers. Moreover, the comparative magnitude of subsidization of diesel fuel and electricity prices in most LDCs must be taken into consideration. The profitability of the manual technologies is so much greater for small-scale producers that the technologies could withstand substantial increases in price and still be economically preferable. Delete "And then will ATI's chosen beneficiaries be willing or able to afford the appropriate technology instead of a motor driven or electrical machine."

49/1/all Delete paragraph starting "The decision before ..." Characterizations are inaccurate.

FACTUAL CORRECTIONS TO ANNEX I OF DRAFT EVALUATION
(by page/full paragraph/line)

I-2/2/1-2 Delete "At about this time, ATI's Alpaca Production and Processing Project for the southern highlands of Peru was closing due to the general withdrawal of United States foreign assistance from the country and the rising level of violence in the Altiplano [sic]." Add "In 1988, ATI gave a $4,800 grant to a local organization to begin preliminary studies and proposal development for a regional alpaca fiber production and processing project in Peru. ATI suspended all activities by August, 1989 due to terrorist activity in the region. The information gathered was used in the development of the Bolivia alpaca project."

I-3/1 Add at the end of the paragraph "Even at this point, the plant already had written offers from European buyers for the purchase of the first year's production."

I-3/1-2 "The evaluation team does not consider this project to represent either the expansion or diffusion of the Guatemala Wool Project..." The evaluators have drawn a flawed conclusion. The purpose of both projects was to improve the quantity and quality of raw animal fiber production, processing, and marketing so that small-scale producers would obtain a greater share of the value added to the product. Both projects involved a series of interventions along the value chain, including: upgrading the livestock, developing human resources, organizing producers to provide ongoing services such as input supply, and establishing a processing facility and marketing system owned by the producers group. Also, through the Guatemala project ATI developed substantial expertise with herders of fiber-bearing animals, technical aspects of the fiber subsector, and the requirements of the international fiber market.

I-3/4/3 Replace "always" with "frequently".

I-3/5 Replace this paragraph with the following three paragraphs:

"The project shows strong potential for replication. The cost, $5 million, is not high compared to numerous other activities, such as the $37 million aborted World Bank project, and the benefit/cost ratio is strong.

"Replication involves more than simply finding the same types of animals and using the same set of technological interventions. In Bolivia, ATI has developed approaches to upgrade livestock, improve pasture management and animal husbandry, and collect, purchase, and transport fiber from remote areas. These approaches are relevant for areas such as Nepal, Tibet, and some of the newly independent states of the former Soviet Union, where high-quality fiber producers face similar problems of limited access and resources. Product marketing strategies employed in Bolivia are transferable and already serve as an excellent example of what could be accomplished elsewhere.

"The project owes its success to such discrete factors as the maturity and strength of AIGACAA, the initial investment funding, and an effective implementing organization to provide necessary initial technical and managerial assistance. These factors could be replicated in other international development settings."

I-3/6/3-4 "It seems to be as much the result of fortuitous circumstance ... put the two parties together." The evaluation team seems to discredit ATI's efforts in bringing this project to fruition. ATI worked long and hard to bring the Bolivia project into being and make it a success. With respect to fortuitous circumstances, many successful development projects result from convergent interests between project partners and donors.

I-5/1/2 Add "In a year, the processing plant will export approximately 10 percent of the total potential alpaca fiber exports of Bolivia."

I-6/4/3 "Only because the chief of party/co-director established good social relations with a mission direct hire person did USAID hear anything regarding the project." This sentence is incorrect. ATI recommends deleting it in favor of the following two sentences. "ATI's project co-director has met on a regular basis with at least three USAID officials in the Rural Development Office regarding the project and coordination of activities with the cooperative small ruminant research program, funded by USAID (CRSP). The deputy chief of the Rural Development Office has visited the project office in El Alto twice and has also accompanied the project co-director to the project area, as is documented in a site visit report."

I-6/4/5 After the last sentence, add "because they did not wish to hinder the evaluation team's ability to have free and open discussions with the mission staff, per the recommendation of the project co-director. ATI/W staff have routinely met with USAID/Bolivia on their prior visits to the country."

I-7/4/1 "Each organization should have a general manager and whatever staff which might be needed to carry out the programs and..." Delete this clause. Each organization already has a general manager. COPROCA has its own staff and the staff paid by the project functions as AIGACAA's staff.

I-7/5/1 "Financing should be programmed on a declining basis starting <u>now</u> so that initially each organization is 100 percent subsidized, but then by the year 2000 is <u>completely</u> self financed." This statement reflects incorrect information and assumptions. Delete it in favor of the following sentence. "Project financing for both organizations has already been programmed on a declining basis and both are expected to achieve self-sufficiency by 1997."

I-7/6 "The current 'project' accounting system ... to satisfy disbursements, etc [sic]". This two-sentence description of the project's accounting system is inaccurate and

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should be replaced with the following. "AIGACAA has a complete accounting system developed by Coopers & Lybrand for the project, including disbursements to COPROCA. COPROCA also has a separate, complete accounting system designed specifically for a profit-making textile enterprise; it is required to present regular financial statements to the project as well as its Board of Directors and stockholders.

I-8/item e "Financial assistance on a declining basis to absorb payroll, program and other costs not able to be borne by income from the organizations.[sic]" Because ATI is already implementing this recommendation, consistent with the project plan, it should be deleted.

I-8/item f After "equipment etc. [sic]" add "The project has already provided most of the commodities needed to support institutional strengthening activities. It is seeking some modest graphics and printing budget support from additional donors."

I-8/item g After "spin-off businesses" add "The project has contacted the United Nations Industrial Development Organization representative in Bolivia to seek funding for feasibility studies for these spin-off businesses."

I-8/last/1 "AIGACAA and/or COPROCA should seriously pursue ICI status ... savings proceeds." These sentences should be deleted or changed to reflect the fact that the project has investigated the possibility of ICI status and learned that neither AIGACAA nor COPROCA can qualify under existing Bolivian law.

I-9/-/7 Add "The project recently completed a study of the credit program and ATI/Bolivia has requested UNCDF's concurrence in raising the interest rate to 9 percent."

I-9/1/6 After "in the Altiplano [sic]" add "ATI has already taken steps to secure funding for feasibility studies of the commercialization of other camelid products."

I-9/2/1 After "veterinary store" delete "should be more commercial and ..." Veterinary supplies have always been provided on a commercial basis. Add "At present, veterinary supplies are loaned to the project veterinarians, who then sell these goods to the farmers. The problem has been that the veterinarians have limited time for commercializing these products and the volume of the sales has not reached the size needed to provide sufficient income to an alternative person from the community selling these supplies. ATI is interested in exploring ways to improve this activity as the demand expands."

I-9/3/last After "to obtain a good return on the investment" add "The cost and revenue data are already being collected and analyzed."

I-11/item 10 Before "AIGACAA needs to ensure its 4,500 acre farm" add "AIGACAA's farm is primarily a genetic improvement center. It was established with full consent of the membership, who for the most part recognized the need for this service. So far, the majority of the farmers have viewed AIGACAA's farm as a service activity, rather than a competitor."

I-11/item 11/1-13 After "sheep procurement program ... delivers them for slaughter" add "The project has considered animal stocking rates, pasture management, and culling for type and quality (including management of the sheep population) since the beginning to maximize the profitability of the overall herd. Herd management has accounted for a major proportion of the effort of the project extensionists, veterinarians and other experts. Substantial progress has been made in this area, which has been documented in the project's reports."

I-11/item 13/1-2 "In offering services to alpaca and llama herders, both AIGACAA and COPROCA should serve both members and non-members." Replace this sentence with the following two sentences. "AIGACAA and COPROCA already provide fiber collection, veterinary/animal health and other services to both members and non-members. Extending other services to non-members and offering additional services to both members and non-members are being considered."

I-12/item 15 "Financing of AIGACAA" Delete this entire item. AIGACAA is already funded by a combination of member dues, grants, income from investments, and fees for services.

I-12/item 17/1-4 Delete "In order for a potential borrower to actually receive a loan, he/she should be a shareholder in COPROCA and a member of AIGACAA... passed on to COPROCA." Add "In order for a potential borrower to receive a loan, he/she presently has to be a member of AIGACAA, but not necessarily a shareholder in COPROCA. However, 860 of the more than 1,000 families that are members of AIGACAA are stockholders in COPROCA. Stock ownership in COPROCA also be made a condition for credit."

I-13/1/last After the last sentence, the following sentence should be added for clarity. "This in fact is the approach followed by the project."

I-14/-/8 After the last sentence, the following sentence should be added for clarity. "AIGACAA's annual assembly made the decision on May 15, 1994 to pursue such a policy; and the Board of Directors and project staff are working on its implementation."

I-14/last/last Add "The project began a special program to assist female shepherds in March 1994. Focus group and training sessions were conducted under a subcontract with SETAM (Servicios Técnicos para la Mujer) to assist women in their specific roles in the alpaca production and product commercialization cycle in Bolivia. This new

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program is a response to a study conducted in 1993. The project already has numerous requests from the U.N. and other international development agencies for the questionnaires developed for information gathering, and analysis and the first report generated through this effort.

"ATI's Alpaca Producers Project is one of the most progressive initiatives for rural women in the country. As can be seen in the impact data, 33 percent of the participants who have undergone the training are women despite the fact that women often find it difficult to attend trainings due to their workload and social responsibilities. This percentage compares well to other agricultural development projects in Bolivia."

FACTUAL CORRECTIONS TO ANNEX II OF DRAFT EVALUATION
(by page/full paragraph/line)

II-1/2/6 Delete "albeit with heavy subsidies", which is asserted without any numerical backup and without defining what constitutes heavy subsidies. From the very beginning of the project, it has been the responsibility of the manufacturer (not the project) to negotiate a sale with a customer, deliver and install the pump, train the farmer in use and maintenance of the pump, and collect any loan repayments that may have been part of the sales agreement. The project has trained manufacturers in production of the pump and how to go about demonstrating the technology and training the buyers. It has also trained manufacturers in marketing techniques (i.e., the importance of product, price, and promotion in selling a product).

At the end of the sentence, add the following. "All fourteen of the established treadle pump manufacturers currently sell and distribute the pump and train pump users themselves (the project provides no subsidies for these costs). All fourteen manufacturers also undertake some pump promotion (e.g., production and distribution of flyers, display of pumps at visible commercial locations, collaboration with local merchants to publicize the pump, and regular contacts with prospective sales agents and customers).

"ATI is only involved in promotional activities at present -- conducting demonstrations jointly with the manufacturers and sponsoring radio and television commercials. Some of the manufacturers are now doing demonstrations on their own without any ATI involvement, and the others cover all of the costs of the demonstrations themselves except for the rental and fuel costs for a vehicle and ATI/Senegal staff time. Those manufacturers who are still being assisted in demonstrations are receiving decreasing amounts of support.

"Due to the newness of the treadle pump on the Senegalese market and the lack of producer marketing experience and resources, support in the area of product promotion and advertising has continued longer than assistance in other aspects of pump dissemination. This has been an appropriate role for ATI analogous to services governments often provide in agricultural extension. However, it is clear to each manufacturer from the beginning that the marketing support will be eventually removed by the end of the project."

II-1/2/2 Add "treadle" before "pumps".

II-1/2/10 Add "Diambar" before "stoves" since almost everyone has some type of stove.

II-1/3/3 ATI has since revised these estimates from a draft ATI report slightly to 1) subtract out the costs of the other components of the project that are not attributable

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to the treadle pump and stoves, 2) include a pro rata share of ATI/W indirect costs, and 3) separate costs and benefits that occurred before the devaluation from those that are post-devaluation, using the average exchange rate prevailing at each time. Both are based only on the number of pumps and stoves sold to date even though sales continue to grow, augmenting the benefits.

The revised estimate is that the treadle pump component yields a benefit/cost ratio of 5.65 ($3,498,500 of gross benefits divided by total project costs of $512,800), slightly higher than the 5.07 ratio (benefits of $3,313,473 and costs of $652,922) in the draft evaluation, which should be revised accordingly. Add "The benefit estimate of treadle pumps is conservative because it does not include the benefits from repeat purchases of the pump after a pump wears out."

The revised benefit/cost ratio for the stove component is 3.6 (based on monetary benefits of $2,605,100 and costs of $642,000); the draft evaluation should be revised accordingly.

Add "The benefit estimate for stoves is conservative because it does not assume that owners of improved stoves will replace Diambar stoves with stoves of the same type, which is likely to be the case. It also does not include the environmental benefits of saving trees.

"These benefit/cost ratios become even more favorable over time as sales increase and marginal project costs decrease. For example, from January through September 1994, an estimated $51,100 have been spent on the pumps component; during that period, approximately 300 pumps were sold (up from 251 the first half of the year). Assuming post-devaluation benefits of $1,062,000 ($590/pump x 300 pumps x 6 years) and project component costs of $51,100 the benefit/cost ratio for this period is 21.

"With the additional support USAID/Senegal will provide under the new PVO Co-Financing Project arrangements, ATI anticipates spending an additional $120,000 over three years in support of the pump component. Given the current rate of sales, ATI expects benefits of $5,310,000 ($590 x 1,500 pumps x 6 years), yielding a benefit/cost ratio of 44 for this period. Although treadle pump dissemination will receive no further support after September 1997, sales are expected to continue to increase. In the case of the stove, sales have increased by 6,100 between January and September 1994, yielding benefits of $1,207,800 ($99 x 6,100 x 2 years) at a cost to the project of approximately $66,300, resulting in an incremental benefit/cost ratio of 18.

"Under the next phase of the Senegal program, ATI has budgeted $225,000 over three years for the stoves component and anticipates benefits of $4,336,200 ($99 x 21,900 stoves x 2 years), raising the benefit/cost ratio to 19. Even after the next

phase of the program concludes in September 1997, sales of both technologies will continue at no further cost to the U.S. Government. Correspondingly, the benefit/cost ratio will continue to increase even though the marginal project cost will fall to zero. These calculations show the importance of start-up costs in stimulating new economic activities and how their relative magnitude decreases over time as sales of successful products increase and marginal project costs decline."

II-2/3/1 Replace "A more telling" with "Another". Benefit/cost ratios, which are discussed in preceding paragraphs, are a better economic indicator than cost per tool. Add "The *incremental* (marginal) cost per tool sold is substantially lower than the *average* cost per unit. It is a standard principle of economic analysis that *sunk* costs that have already been incurred are not relevant in making current decisions on the allocation of resources.

Because calculations are based on the previous overvalued exchange rate for the local currency,[8] add "If the 50 percent devaluation of Senegal's currency reflected the full amount of the overvaluation, the domestic resource costs of expenditures made by the project in local currency should be cut in half (to $470 per pump and $32-34.50 per stove)."

II-2/3/5-6 The figures calculated by the evaluators ($940 per treadle pump and $64-69 per stove) are average cost numbers that include the sunk costs. For completeness, add "For the period January through September 1994, the project's marginal costs were only $170 per pump and $11 per stove. During the period of the PVO Co-Financing Project, the expected marginal project cost is $80 per pump and $10 per stove."

II-2/3/9 At the end of the paragraph, add "However, it does include indirect costs for ATI/Washington recovered at the approved NICRA rate."

II-2/4/1-5 Delete "If a private individual entrepreneur ... small stove." No entrepreneur entering these businesses needs to cover sunk R&D costs.

II-2/4/8-9 Delete "heavy" and "transport of the pumps, training, extension" since no evidence is presented that the project's subsidies are heavy. Also, the project does not subsidize the items listed and does not deliver pumps or train users.

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[8]Economists often use the post-devaluation rate in such cases or a shadow price to adjust the pre-devaluation rate to reflect real values. The World Bank and IMF use the shadow price approach to reflect domestic resource costs when exchange rates are overvalued by government policies that distort factor prices. See I.M.D. Little and J.A. Mirrlees. 1974. Project Appraisal and Planning for Developing Countries. New York: Basic Books; J. Price Gittinger. 1982. Economic Analysis of Agricultural Projects. Baltimore, MD: Johns Hopkins University Press; UNIDO. 1972. Guidelines for Project Evaluation. New York: United Nations Industrial Development Organization.

II-2/4/10-12 Delete "it would seem safe to estimate that each tool would, at a minimum, cost twice the current price". Since the manufacturers are already bearing the costs discussed (i.e., sales agents and transport for the pump delivery and installation), there couldn't possibly be a doubling of costs. The only cost not fully borne by the manufacturers is promotion (acknowledged in the draft evaluation at II-12/3/15-16).

Add "ATI's objective in the next phase of the project is to get the manufacturers, either individually or as a group through the recently created producers association, to take over all the promotional and advertising activities currently carried out by the project. By that time, the technologies will be more widely known in Senegal. However, whether the artisans are capable of supporting the costs associated with radio and television commercials or not, the other promotional activities will continue to be undertaken by the manufacturers, thus allowing them to go on developing the market and selling pumps."

II-2/4/last After "Would this price these appropriate tools out of the market?" add "There would not be a substantial price increase because all costs, except radio and television advertisements, are borne by manufacturers, who will eventually be able to maintain sales without the radio and TV ads. Moreover, ATI maintains that it would not price them out of the market because cashflow analyses have shown that the high profitability of these tools for users would withstand a substantial price increase. At present, these tools have a payback period of just a few months."

II-3/1/2-8 "Current appearances and ... new consumer products?" Delete these sentences. The Evaluation Team spent very little time with ATI/Senegal staff and they provide no factual basis for their impressions; the statements are not justifiable. They run completely counter to the first-hand experience of Ed Perry, who spent over two years in the field heading up the ATI/Senegal staff. ATI/Senegal staff themselves report that they waited in the office while the Evaluation Team was present specifically to be available to assist them in their work.

II-3/3 and 4 Delete both paragraphs. The presence of ATI/Washington staff and/or a translator would have minimized problems the Evaluation Team experienced with the appointment schedule in Senegal. More importantly, the discussion is not relevant to the draft evaluation.

II-3/5/1-5 Delete this paragraph. The characterization of Ibrahima Diaby and the associated commentary are inappropriate, particularly given the fact that the statements mentioned are unattributed. Add "Before joining ATI in 1992, Diaby managed an ILO-funded artisan training project in Mauritania for four years. Given that project's emphasis on training and the fact that metal-working artisans were beneficiaries, he was well qualified for his first job with ATI/Senegal as Deputy

Director. For almost two years, Diaby performed well in the Deputy Director position, with primary responsibility for the stoves component.

"Since becoming Director of the ATI/Senegal project, he has achieved impressive results. Pump sales have increased from 520 at the end of December, 1993 to more than 800 by mid-September 1994. This represents a 136 percent improvement in average monthly sales (from 14 pumps/month before to 33 pumps/month after). Over the same period, stove sales grew from 7,900 to about 13,500. This represents a 105 percent increase in average monthly sales (from 304 stoves/month before to 622 stoves/month after). The number of commercially installed wrapped screens increased from 30 to 120 and steel-tipped pestle sales increased from approximately 80 to more than 300.

"Diaby also began promising initiatives of his own in the identification and testing of new market gardening technologies. Fund-raising has occupied approximately one-third of Diaby's time. He has been extremely helpful in the negotiations with the USAID PVO Co-Financing Project, which has agreed to fund the next phase of ATI activities in Senegal through late 1997. He has contacted other potential donors: the USAID Community-Based Natural Resource Management Project, the World Bank, the Canadian International Development Agency, the Embassy of Japan, and the UNDP (Reseau 2000).

"Diaby's performance has been judged strong by ATI staff persons Dieter Fischer and Jonathan Otto and ATI consultant Susan Gannon, all of whom have worked with him over extended periods of time. Without exception, ATI/Senegal staff express satisfaction with Diaby's management of the program activities."

II-3/6/1-3 Add "However, the ATI/Senegal financial reporting system complies with all USAID/Senegal and USAID/Washington requirements."

II-3/7/3-4 Delete "and does not have relationships with many foreign organizations" In recent months, Diaby has been in contact with the relevant officials in the following organizations: the World Bank, the Canadian International Development Agency, UNDP's Reseau 2000, and has been in extensive contact with the USAID PVO Co-Financing Project, which has been a high priority for his time. He spends approximately 15 percent of his time with foreign organizations, including USAID.

II-3/7/5 Replace "polyester" with "spun polypropylene" (the trade name is "agryl").

II-4/-/1 Replace "vegetable seed beds" with "seedling beds" and delete "and/or gardens". The floating row covers are only used for seedling beds in Senegal due to the climate and the high cost of using them for entire gardens.

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II-4/1/6-7 ATI does not typically seek opportunities through the NGO network. At the end of the sentence, add "While ATI has made efforts to collaborate with NGOs in Senegal, the main focus has been on private sector partners." After "ATI's contact with RADICOM to import the polyester ... is an example ... systems" add "However, ATI has made even greater efforts to involve private sector companies such as TROPICASEM, SENCHIM and wholesaler/retailers such as Traore et Fils, with the floating row covers.

"Introduction of the treadle pumps and stoves has been almost solely dependent on the private sector. In the case of the treadle pump, ATI has worked closely with fifteen private sector workshops and only one NGO workshop (now closed) to manufacture the technology. Approximately thirty sales agents have been active in commercializing the pump. The most successful pump manufacturers are those that have, based on advice from ATI, collaborated with private sales agents. One of the largest manufacturers noted that sales agents were responsible for the sale of more than half of the 200 pumps he has sold so far.

"One exception to private sector dominance in the commercial dissemination of the treadle pump has been the involvement of an NGO, ASEREAD, in sales in the area of the Lac de Guiers. ATI decided to collaborate with ASEREAD in the areas of promotion and sales because of its dynamic activities in a geographic area with exceptional potential for small-scale irrigation that was not well served by any nearby manufacturers or sales agents.

"Similarly, the stove has been manufactured by more than fifty private sector tinsmiths and marketed either directly by these producers or through more than 200 private sector vendors. The participation of NGOs in stove commercialization efforts has been virtually nonexistent. While ATI has been instrumental in getting these sellers started, the 150 who are currently active carry out their commercial activities on their own with no direct support from ATI."

II-4/1/9 Change "polyester" to "spun polypropylene".

II-4/1/9-12 Delete "Similarly, the next phase of ATI's Senegal project, to be funded by the PVO Co-Financing Project, corroborates this trend in ATI to identify other NGOs to work with ... technologies." Only about $15,000 of the $878,019 in funding that the PVO Co-Financing project has verbally approved (less than 2 percent of the total budget) is allocated for ATI grants to local NGOs. In addition, ATI currently has good prospects for funding from the planned World Bank Rural Private Initiatives Project, which directly targets Senegal's rural private sector.

II-4/1/10-13 Update that "The USAID PVO Co-Financing Project has verbally agreed to provide $878,019 in funding for the next phase of ATI's Senegal Project over three years. ATI had to agree to contribute $100,005 to leverage this funding."

II-4/2/1-2 Delete the rhetorical question "Is the approach taken by ATI based on the premise that the private sector would not have the poor's interests at heart?" ATI's private sector orientation is discussed amply above.

Add "From the very beginning of ATI's efforts in Senegal, the emphasis has been on private sector sales by manufacturers and vendors. As is usually the case with a new technology, the first purchasers are not the poorest of the poor. Nevertheless, as competition among increasing numbers of manufacturers and traders reduces the price and as the perceived risk associated with the adoption of the new technology falls over time, it becomes more and more accessible to lower income groups. The problem of affordability is also reduced by the credit sales terms offered by the pump manufacturers and the *tontines* (informal revolving savings and loan arrangements) organized by women's groups for stove purchases.

"Manufacturing and distribution are already proceeding on a commercial basis (only promotion and advertising costs are being covered by ATI) and cashflow analyses have shown the technologies to be so profitable that they could withstand substantial price increases. Current core funding is approximately $4 million per year while total program size (due to the funds leveraged) approaches $10 million per year to cooperate with targeted low-income small producers. This is a small amount relative to the resources spent by donors and multilateral development banks on activities that put small-scale producers at a disadvantage vis-a-vis large-scale producers.

"Nor does ATI try to control the price and the distribution of the products introduced. All that ATI does is help the workshops estimate their production costs. Some of the manufacturers charge different prices for different customers. Pump manufacturers charge prices ranging from 30,000 CFA to 50,000 CFA, depending on the delivery distance, purchase terms (credit vs. cash), the capacity of the customer to pay, and competition. Despite the requests of stove sellers, ATI has refused to post prices in the shops of participating producers and vendors. ATI has worked to reduce production costs through the use of low-cost durable materials; the introduction of design modifications to increase labor productivity; and the development of specialized production tooling to decrease the cost of labor per unit and improve product quality."

"The approach ATI has taken in Senegal has been to face the inevitable from the start, removing project support gradually, as is the goal of most development assistance organizations. The proof of this is in the declining marginal project cost per tool sold, as presented in the response to II-2/3/5-6. The project's treadle pump and stove promotion and advertising activities will be gradually phased out over the next three years."

II-4/2/9-11 Delete "If continual subsidy...require large amounts of money to carry the world's poor indefinitely!" See response to 4/2/1-2; the tone of this statement is inappropriate.

II-4/3/3 Delete "While the project has made progress ... marketing the items". By mid-September 1994, more than 800 pumps and 13,500 stoves had been sold. This significantly surpasses the project goals of 600 pumps and 10,000 stoves to be sold. Manufacturers of the pumps and stoves have had no difficulty selling all that they produce, while maintaining only small inventories.

II-4/3/5 After "satisfactorily" add "The Senegal project did not have the budgetary resources to provide significant loan capital to manufacturers and sellers. However, some have received loans from existing financial institutions that offer credit to small-scale producers -- ACEP and the EDF Small and Medium-Scale Enterprise Project located in the Fleuve Region. Virtually all of these manufacturers and traders are aware of their existence.

"In some cases, ATI has intervened on behalf of these parties seeking loans to serve as a reference. For example, the medium-scale producer of ceramic liners for the stoves has just received an $8,000 loan. One of the stove tinsmiths is applying for a $4,000 loan after having repaid an earlier loan of $200. Five or six stove manufacturers and vendors have obtained loans from ACEP.

Under the next phase of the program, ATI/Senegal will be able to establish a significant revolving loan fund for manufacturers and vendors. In addition, a new credit agency has recently been created by a World Bank program. As stove and pump manufactures become more confident that the demand for the product is growing, they will become more willing to seek out loan capital from existing sources, something ATI has always encouraged them to do."

II-4/3/8 Due to the high cost of television air time, TV ads did not tell where the pumps and stove could be purchased, but the radio ads did. After "who were not given" add "The TV ads were 20 seconds long and therefore limited in the information they could present. However, the radio ads did list where they could be bought because radio time was inexpensive and longer ads could be aired. It was expected that, from an advertising point of view, the TV and radio ads would complement and reinforce each other, and they did."

II-4/3/8 The project did in fact provide a limited amount of assistance to women's groups for working capital. Add "much" before "working capital" and after "working capital" add "however, the project did help out in a limited way by initially giving each women's group 5-15 stoves. The money earned from sales of these stoves provided a small amount of working capital to purchase stoves for additional sales. Due to the strong demand for stoves -- *more than 1,000 were sold in August, 1994* -- availability

has been more of a limiting factor than working capital for sales by women's groups. Nevertheless, in the next phase of the program, women's groups will have access to greater amounts of working capital through a $65,000 revolving fund to be shared with other vendors and manufacturers."

II-4/3/9 That some women's groups make more from the sale of other items than from stoves is not a relevant criticism. It should be deleted.

II-5/1/1-2 Delete "It seems neither the current pump manufacturers nor the stove artisans can afford to build pumps/stoves for stock." In fact, project staff accompanying the evaluators report that the manufacturers had stocks of pumps when the evaluators visited, despite the fact that it was the rainy season. When Ed Perry went to two of these same four workshops on September 17, 1994, he found that Tine had an inventory of approximately 25 pumps and Cisse had an inventory of 19 fully or partly assembled pumps, either in his shop or placed at various other sales points. Both stated that they keep a steady minimum inventory and that their current levels were similar to those that had existed in July. Thiam in St. Louis was in the process of building 10 pumps when the evaluators visited. The artisans in Keur Momar Sarr had recently been trained at the time of the evaluator's visit, but they also had 3-4 pumps in inventory.

Add "Pump manufacturers have always carried inventories. The estimated total inventory of pumps at any given time varies between 50 and 100. Due to much lower levels of available capital, lack of storage space and a tradition of producing on order, stove manufacturers normally hold only very small, if any, stocks of finished goods. In fact, they have almost no inventory of raw materials. This is beginning to change as these stove producers realize that there is a stable and growing market for the stove and as their profits allow them to reinvest. Not only are profits being sunk back into raw materials, but they are also being reinvested into additional workers, workshop space and equipment."

II-5/1/6-9 Delete the rhetorical question "Or is it that prices of the final product, which appear to be calculated/derived by ATI and contemplate a 'fair return' in their eyes, just aren't sufficient ... manufacturer or distributor." Add "ATI does not set the sale prices, and there is no evidence that pump and stove manufacturing are not profitable. Large numbers of pumps and stoves have been sold through the private sector and are continuing to be produced and sold. Manufacturers are expanding their workshops, employing more people, investing in more capital equipment, enlarging their homes, and buying cars. The two pump manufacturers in Thies that Ed Perry visited in September 1994 reported that they plan to continue production regardless of whether ATI continues promotion and advertising of this technology. Numerous other manufacturers have stated the same at other times in the past."

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II-5/1/15-16 After "if new sheet metal is used the cost goes out of reach of the target group" add "The use of scrap metal in the stoves is both economically efficient and environmentally desirable in Senegal (and in Kenya)."

II-5/2/9 The evaluators saw only two stove cladding manufacturers -- Cheikh Thiam in the Dakar neighborhood of Rebeuss and Hamedi Diop in Pikine. After "The project stove manufacturers ... were located in back alley ways ... and seemingly only manufactured stoves on an order basis" add "This is not surprising because informal sector metal artisans have a tradition of mostly producing goods on order due to their lack of working capital and inability to secure loans. Since the Diambar stove has only been commercialized for a little over two and a half years, it is to be expected that it would not be as widespread as other competing products that have been on the market for decades."

Some of the more successful stove artisans are located on main roads (for example, the Route de Rufisque, the main road leading into and out of Dakar) and in major open-air markets. If the newer artisans are not always found in the most visible of locations, it may be due to the higher cost of renting workshop space in those places and the fact that informal sector artisans often seek to avoid locations where they could easily be harassed by the local authorities.

II-5/3/2 Replace "Peking" with "Pikine" and delete "neighborhood in Dakar" since it is a separate jurisdiction (suburb) that is at least as big as Dakar, having a population of about one million people.

II-5/3/5-6 After "The team attended an impressive stove demonstration ... while the show was good ... only five stoves were sold ... nor were raffles or other contests held either" add "Nevertheless, this same sort of demonstration has been instrumental in getting other vendors set up, some of whom have gone on to sell hundreds of stoves."

II-6/3/1 Delete "There is an NGO pall/cloud hanging over the project, which seems permeated with NGO oriented (as opposed to private business oriented), nonprofit and poorest of the poor mentality." This is based on false assumptions (see ATI's response to II-4/2/1-2 and II-4/2/2-4). Although ATI/Senegal has not neglected NGOs over the last four years, the main focus has always been the private sector, given the project's goal of sustainability.

Add "In advising those manufacturers who wanted to pursue large orders from NGO projects, ATI/Senegal always recommended that the manufacturers consider NGO or government projects to be a small part of the total market and that their client base should be as diverse as possible. ATI/Senegal explained to manufacturers the constraints in working with NGO or government projects: 1) the relatively short existence of projects compared to private farmers and homemakers who will always be there, 2) the long waiting period between expressions of interest and submissions

of orders; 3) slow payments on orders; and 4) a common giveaway mentality in such projects that may give other potential customers the impression that they can get a pump for free or less than the sale price if they only wait their turn to receive their present from an NGO or government project, which can influence commercial sales in the project areas for a long time.

"Of the more than 800 pumps sold, only sales of approximately 80 pumps to farmers on the banks of the Lac de Guiers have been achieved with the support of any local NGOs; nearly all of the remaining pump sales were accomplished through direct contacts between the manufacturer and the farmer or through the manufacturer's sales agent. Virtually all of the stoves have been sold through the private sector, either by the metalsmiths, sales agents, or women's groups."

II-6/3/6 Replace "mortar" with "pestle".

II-6/3/7-8 After "The stove manufacturers seemed like the smallest, poorest artisans in their neighborhoods... etc." add "Metalsmiths in Senegal are members of a low-level caste and are indeed quite poor. They were chosen as Diambar stove manufacturers because they make the traditional malgache stoves and thus possess the basic skills needed to produce the claddings for the improved stove and have good linkages with the existing marketing network for stoves."

II-6/3/12-21 The stove metalsmiths visited are two of the most dynamic of the Diambar stove manufacturers. They are fully capable of fabricating "hundreds of stoves... on a regular basis..." Modify the discussion to remove the judgments based on appearances, which do not provide a basis for assessing manufacturing capability.

Add "Since he began commercial production of Diambar stoves almost three years ago, one of the metalsmiths visited, Cheikh Thiam, has made and sold an average of 1,000 stoves a year. While only active for the last year and a half, the other artisan visited by the evaluators, Hamedi Diop, has a capacity about twice that of Thiam's since he employs six trained workers and has a rotary machine. His enterprise has manufactured approximately 2,000 stoves.

"Both of these enterprises are expected to increase production in the near future as a result of new productivity-enhancing tooling and design simplifications *introduced by the project*, as well as the expanding demand due to the postdevaluation increases in charcoal and liquefied petroleum gas (LPG) prices and the advertising campaigns. ATI/Senegal anticipates a doubling of stove production in 1995 overall by small-scale metalsmiths. In August 1994, over 1,000 stoves were sold, a more than three-fold increase over the average monthly sales figures between November, 1991 and December, 1993."

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II-6/3/12-14 After "one or two 10-12 year old's [sic] pounding unimpressively on an old rusted railroad track," add at the end of the sentence "These two young workers trained by the workshop owner, Cheikh Thiam, produced 70 stoves in August 1994. Thus, even these two young, inexperienced artisans can fabricate 850 stoves a year. The other artisan visited, Hamedi Diop, has also trained the six workers in his workshop himself and each worker keeps the earnings from the sale of the stoves he makes. When artisans trained by the project train additional artisans, it reduces the project's costs in training manufacturers and is a good indication of the sustainability of this production activity initiated by ATI."

II-6/3/14-15 Replace "displayed what appeared to be specially produced stoves neatly stacked in an empty room" with "displayed an inventory of stoves neatly stacked in a storage room". This statement contradicts the criticism elsewhere in the draft evaluation that small-scale producers do not hold inventories.

After "They just didn't look like shops where hundreds of stoves and/or pumps are turned out on a regular basis and which would be capable and willing to 'explode into the commercial world... in Senegal." add "Nevertheless, these are the same types of small-scale metal artisans that proved capable in the aggregate of producing hundreds of thousands of improved stove claddings in Kenya and that are now producing large numbers of the traditional all-metal stoves in Senegal."

II-6/3/15-17 Delete "While most of the pump manufacturers visited seemed more substantial, they still didn't have sufficient resources to build several pumps for inventory." The evaluators visited the pump workshops of Babacar Tine, Mamadou Cisse, Aby Kane Thiam and a newly trained artisan group in Keur Momar Sarr located on the banks of the Lac de Guiers. According to Ed Perry, three of the pump manufacturers that the evaluators visited are very successful marketers. Tine, Cisse, and Thiam have sold over half the 800 pumps sold to date.

Add "The evaluators went to Senegal during the rainy season when relatively few pumps are sold because rains are occurring and many profitable crops cannot be grown due to greater problems with pests and diseases. Nevertheless, an average of 15 pumps each were in the inventories of the four pump manufacturers visited. This represents substantial entrepreneurial progress in small-scale workshops that traditionally only produce on order, keeping little or no inventory. Holding a larger inventory at the time of the year when demand is low would be an unprofitable business practice."

II-7/1/1-3 Delete "little" before "mass media". In fact, radio ads did instruct listeners where to buy stoves and pumps. Change "mass media" to "television" and after "stoves/pumps" add "because the TV commercials were short due to their high cost. However, the less expensive radio ads did because they were longer. About $75,000 has been spent to date on mass media advertising. The list of all 50 active stove

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manufacturers and 15 pump manufacturers would be quite long in a TV ad, not to mention the much larger number of sellers and their locations. If the TV ads had been that long, it would have exhausted the whole project budget. Moreover, the TV and radio ads were designed to reinforce and complement one another, which they did."

"Long commercials would violate modern principles of advertising first developed in the U.S. during the 1950s by Rosser Reeves, who believed that 'most commercials were too long and too repetitious, wasting viewer time (and goodwill) and advertising money'.[9] Reeves was convinced that a television spot should be "in quick, out quick, and done" because "television was so powerful that less could easily be more."

II-7/1/8-9 Delete "unless stocks were available to buy" since the project has always taken into account the availability of pumps and stoves before broadcasting spots on Senegalese radio and television. Add "The first television and radio commercials for the treadle pump were not broadcast until almost two years after the start-up of commercial production. By that time, there were 8 trained manufacturers and 50-75 pumps in the inventories of the producers. The pump manufacturers have always been capable of responding to the demand for their product. Television and radio commercials were first done for the stoves in May 1993, about a year and a half after the beginning of commercial production. While it is true that stove demand had somewhat outstripped supply at that time, this established a reputation for the stove and proved the market potential of this product to manufacturers and vendors."

II-7/1/9-10 Delete "that is of course, unless the advertising was really destined to be seen/heard by the donors". There is no factual basis for this inappropriate accusation. Add "The first commercials aired in November 1992, resulting in the largest pump buying spree that the project had seen up to that point; approximately 200 were sold between November 1992 and March 1993. Since then, television and radio spots for pumps were broadcast in November (at the beginning of the market gardening season) and in February-March (after the first harvest, but just before the second planting when farmers tend to have more readily available cash). The first advertising campaign for stoves was scheduled for the period preceding a major religious holiday, Tabaski, when homemakers traditionally purchase kitchenware such as stoves. It resulted in the highest one-month stove sales recorded up to that time."

II-7/2/1-3 Add "However, involving larger manufacturers in the production of new technologies for low-income producers and consumers is generally very difficult because the market potential of new products is typically not known. Thus, in Senegal a front-end investment was necessary to educate farmers about the treadle pump and consumers about the improved stoves. Since the traditional fuel-inefficient stove is

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[9]David Halberstam. 1993. The Fifties. New York: Random House, p. 227.

made by informal sector artisans, this limits the profit margin that a producer can earn on a competing product. In many cases, large producers of either the pump or the stove would be priced out of the market because their production costs would be higher than those of informal sector producers.

"Due to small national markets in many African countries, including Senegal, most formal sector companies cannot attain high-volume production. To make up for this lack of volume as well as high taxes and import tariffs, the prices charged are often greater than those of firms producing comparable products in the United States. Companies run by Lebanese or Indians who are uncertain about their security and immigration status often have very short-term time horizons and consequently high profit expectations.

"However, now that the project has succeeded in proving that there is a demand for large numbers of stoves, some medium-scale metal workshops are getting interested. For example, two treadle pump manufacturers want to begin manufacturing the stove and one has already been trained to do so. ATI is looking into the possibility of stove cladding manufacturing by a medium-scale fabricator of sprinkler cans. Some labor-reducing design simplifications currently being studied will, if implemented, further encourage these producers."

"Multinational corporations operating in Africa have high overhead costs due to expatriate managers and technical staff, resulting in higher unit prices. For example, one of the commercial banks in Senegal is now trying to decide whether to lay off five expatriate employees, paid an average annual salary of $150,000 per person, or 150 Senegalese employees. Formal sector manufacturers in Senegal, and Africa in general, are some of the least competitive in the world. That is why most Africans with significant capital to invest sink it into importing and trading rather than manufacturing.

"A clear example of the inability of larger Senegalese manufacturers to compete with smaller, informal sector ones is the case of hammer mills. Originally imported into Senegal, this machinery was produced by firms in both the formal sector (e.g., SISCOMA, which later became SISMAR) and informal sector for a number of years. However, unable to compete with 25-50 small-scale metal working shops, some of which produce the treadle pump today, SISMAR has all but ceased to manufacture mills. During these economically difficult (post-devaluation) times in Senegal, the only viable enterprises seem to be found in the informal sector as the formal sector had seen thousands of employees laid off and dozens of factories closed."

II-7/3/3 Add "Regarding the constraint of credit, our contract with the USAID Mission for the first phase of the project did not allow for the creation of a loan fund for ATI's manufacturers or consumers -- except for the small amount of funding used for the lease/purchase arrangement for the manufacturers to obtain the jigs and fixtures. As a

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sustainable alternative, ATI/Senegal helped link producers and consumers with existing sources of credit (e.g., ACEP, AGETIP, EDF, and *tontines*). In addition, the pump manufacturers frequently sold pumps on a credit basis (usually 50 percent down and 50 percent after one cropping season -- approximately 3-4 months). This arrangement, which gets local manufacturers to deal with local farmers, seems to work much better than one involving large impersonal institutions with deep pockets and local farmers.

"In fact, the World Bank recently congratulated ATI/Senegal on this approach to credit. Repayment rates for the pump buyers have been nearly 100 percent, compared with less than 50 percent for many public sector credit programs in Senegal. A positive side benefit of loan collection by the manufacturers is additional feedback from users and contacts with neighboring farmers who have often become new customers."

II-7/3/4-5 While the draft evaluation lists one constraint identified by the Development Associates evaluation of the USAID/Senegal Technology Transfer Project, it does not quote the favorable conclusions drawn in that report. After "... of the stoves and pumps" for completeness add the following excerpts from the Development Associates evaluation:

"After project start-up, ATI undertook trial manufacture, field testing, and adaptation of the pump before it was introduced to local manufacturers and distributors. This project is impressive in its careful planning for each stage of implementation.... ATI has gone to considerable lengths to adapt the treadle pump to West Africa in terms of private sector manufacture, distribution and service. The project has demonstrated that this is an attractive technology to manufacturers, service providers, and end users. Potentially, it appears to be a technology which can be disseminated on a wider scale in Senegal and elsewhere in Africa.... [it] is a well-designed and managed project....It is clearly achieving useful development results in its current form.

"ATI went to considerable lengths to test and adapt the Diambar stove to local needs....The Diambar stove appears to be a technology which is relevant to Senegal and therefore worthy of wider application...ATI has demonstrated quite successfully that a private enterprise manufacturing and sales network can be fostered....This was a project where an obvious technological need was met....[It] is another example of how simple technology, the utility of which can easily be appreciated by potential users, will catch on...USAID should consider how to explore means for adapting the product development and marketing strategies of ATI to other technology transfers."

II-7/5/1 to II-8/-/3 After "Likewise, it was learned that a national association-like organization ... technical assistance and training etc. [sic]" add "These associations of fabricators represent a private-sector response that is a good indication of the

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sustainability of manufacturing of the products promoted by the project." Also, replace "association-like organization" with "association" since that is what it is.

II-8/2/2 Delete the recommendation to "develop a credit system within existing institutions (not the project) ..." This has already been done.

Add "In the next phase, the PVO Co-Financing Project has verbally agreed to supply ATI/Senegal with $65,000 for use as a revolving fund. A substantial portion of this will be managed by the recently created associations and, if properly managed by these organizations, will be a permanent asset that they will be able to continue operating after the end of project activities."

II-8/1/4 ATI/Senegal has worked for some time with associations of pump and stove manufacturers and recognizes these linkages as integral to a successful exit strategy.

II-8/3/1-2 "Misery seeks company is an old cliche [sic] that may be applied to NGO/PVO circles." Delete this sentence, which contains untrue, negative implications. The vast majority of ATI/Senegal's contacts have been in the private sector, including:

* 16 private sector pump manufacturers
* More than 60 private sector stove manufacturers
* Over 200 private sector stove vendors
* More than 30 private sector pump vendors
* Five private sector wrapped screen installers
* Over 800 private sector market gardeners
* Nearly 14,000 private sector homemakers
* Nearly 150 private sector market gardener-users of wrapped filters
* At least 4-5 private merchants will soon be supplying seedling bed cover as a result of the project's initiative
* At least 20 private sector onion set producers will soon be established as a result of the project's initiative

II-8/4/3-4 Before "The team was unable to engage any of the staff in substantive discussions" add "Owing to language and cultural barriers." It is unfortunate that the Evaluation Team was not accompanied by a local translator.

II-8/4/2 to II-9/-/3 The ability of the local ATI/Senegal staff is demonstrated by the successes in expansion of sales, development of new strategies, and fundraising. See comments above (III/3-III/5). In addition, Ed Perry, who worked very closely with the Senegal staff, states unequivocally, "I know of *no other group of individuals* as professional as the ATI/Senegal staff. They care about achieving results and take great pride in their work. Their accomplishments, both during and after my stay, speak for themselves."

II-9/1/1 to II-9/2/9 Delete the inappropriate use of the term "Whirling Dervish." These two paragraphs are incorrect and should be modified or deleted. Decision making authority *does* reside in the Dakar office. Diaby knows exactly what decisions need to be made and the experienced staff knows how to implement them. Activity in the Dakar office simply is *not* dependent on impetus from Washington. There is no evidence to the contrary in the draft evaluation.

II-9/3 Delete the incorrect statement that "ATI/W is apparently planning to manage even the bank accounts from Washington during the next project."

II-9/4/3 The reasons why an expatriate is necessary are unclear. In any event, the USAID PVO Co-Financing Project has refused to finance a marketing coordinator, expatriate or national. They have also refused to fund any expatriates, including consultants and ATI staff.

II-9/5/2-3 The "unsubstantiated" observations discussed here are contradicted by the factual information below. The statements at issue should be modified accordingly.

Add "Some of the established manufacturers who know their country's business situation very well told Ed Perry in September of 1994 that they would continue to make and sell pumps or stoves following the end of project support (pump producers Babar Tine, Mamadou Cisse, Gora Biteye, and Aby Kane Thiam; stove producers Joseph Dione, Cheikh Thiam, Hamedi Diop, Moussa Thiam, and Talla Gueye)." Other tangible indicators of the sustainability of manufacture and sale of pumps and stoves include the following activities that private sector actors are undertaking without assistance from the project: procurement of raw materials, production using the manufacturer's own equipment and labor, delivery, and in the case of the pump, installation and training in use and maintenance. This stands in sharp contrast to the majority of development projects in Senegal involving any equipment manufacturing (including at least one other stoves project), which have supplied raw materials to assisted manufacturers.

"While the project has been responsible for improving the quality of production inputs (e.g., through training of workers and the provision of tooling), all pump and stove manufacturers use their own labor and equipment. Moreover, during the course of project implementation, many manufacturers have increased the number of workers and pieces of production machinery while at the same time improving the quality of each.

"All stoves and pumps are sold by the manufacturers or their appointed agents. All stove and pump manufacturers are involved in promotional activities at some level, excepting television and radio commercials. While in the beginning the project covered all costs associated with pump demonstrations, many of the manufacturers now cover most or all costs associated with the demonstrations."

11-9/5/8 "If these items are so hot, why hasn't some entrepreneur begun manufacture and distribution on his own?" In fact, some have already done so. Delete the question and related discussion or add the following: "Seven metal artisans have produced one or more treadle pumps without any project support. Of those seven, two were subsequently trained by the project so they could produce a higher quality product. One of the other five has manufactured at least several pumps. At least two of the five are in relatively unserved geographic zones exhibiting good potential for the pump. They have the skills and basic equipment necessary for treadle pump manufacture, but would like to receive training and purchase jigs and fixtures from the project. Other workshops have also requested assistance. Several of the metalsmiths trained by the project have trained apprentices or other workers in their own shops, resulting in an additional twelve active producers. As many as twenty vendors have become active selling the stove with absolutely no support from the project.

"There are a number of possible hypotheses to explain why there hasn't been more automatic dissemination of these technologies. First, during the early stages of the project, producers were understandably reluctant to strike out on their own to begin fabrication of a product that had not been proven in the Senegal market. Another obstacle which stands in the way of automatic dissemination is technical in nature. While the original pressure version of the treadle pump can be copied, it is a very time-consuming and painstaking process without the proper jigs and fixtures, often resulting in a pump with many imperfections.

"To enable more workshops to produce pumps spontaneously, the project began promoting last year a different model that is easier to produce with fewer jigs and fixtures -- the original Bangladesh model. The disadvantage of the simpler model is that it cannot pump water under pressure so that it can be distributed over the farmers' field through PVC pipe rather than by hand via a sprinkler can/basin system. It is hoped that the new model will enable greater diffusion as other metal workers begin to copy it. The Diambar stove is also a more technically difficult stove than the traditional one. Without training and special tooling, it requires considerably more labor to produce."

II-10/1/11-16 This discussion contains factual errors and is based on flawed premises. It is precisely because of concern for "sustainable commercial manufacturing and distribution" that small-scale producers of the stove and pump use scrap metal, and pump producers use apprentice labor. Add "Apprenticeships are a traditional practice for passing along skills that has been very effective in a country such as Senegal where many people have received little or no formal education.

"It is both economically efficient and environmentally desirable to use the resource of scrap metal. The cylinders are the only component of the pump that requires the use of new materials. Used materials for the other parts are just as good and far less expensive than imported new metal, especially since the recent 50

percent devaluation. One of the reasons for the large numbers achieved with the Kenya stoves is the use of scrap metal. The traditional stoves that nearly every urban household has in Senegal are also made of scrap metal. The traditional producers have well-established supply channels in place for obtaining scrap metal. Reuse of materials is something that even wasteful developed countries are moving toward for environmental reasons.

"Small-scale artisans are dynamic producers and the informal sector is a significant component of economies in LDCs. In fact, the only sustainable sector of the Senegalese economy is the informal sector, which has remained vital and growing while large numbers of jobs have been lost in the formal sector over the past five years."

II-10/1/4-8 As stated above, the project has never set prices. Delete "Prices ... seem to have been set from the project office (now any changes must be submitted to Washington for approval) ...access to them." Add "Prices are kept low by selecting and adapting appropriate designs and raw materials that match local resources and by the use of special tooling or production procedures that reduce variable production costs, not by price fixing."

II-10/1/8-11 Delete "planning from the beginning didn't include an exit strategy." Add "From the very beginning, the project's exit strategy has been to make the manufacturing and use of the products as sustainable as possible so that eventually no further support from ATI would be required. This can be confirmed by asking the manufacturers to confirm that this point was made from the beginning of ATI's collaboration with them and driven home on a regular basis."

II-10/3/9-10 Delete "ATI will never be able to disengage and see the technology take off". There is no documented basis for this statement. See response to II-10/1/8-1. Also, this statement is contradicted by the experience in Kenya, which used the same basic technology and strategy. In the first 2½ years of the Kenya project, which lasted 4 years, 13,000 stoves had been sold; this is comparable to ATI's achievements in Senegal to date. The number of stoves sold in Kenya rose to 66,000 after 3½ years and 125,000 after 5½ years.[10] Now, over 13 years since the first design of the Kenya stove, reportedly some 500,000-800,000 have been sold through private sector channels.

II-11/1/2 The correct price range for the pump, minus the PVC pipe, is from CFAF 30,000 to CFAF 50,000, depending on the local raw material costs of the manufacturer, purchase terms (cash or credit), number of pumps purchased in one transaction (i.e., retail vs. wholesale), immediate cash needs of the manufacturer,

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[10]Eric L. Hyman. 1987. "The Strategy of Production and Distribution of Improved Charcoal Stoves in Kenya." World Development 15: 375-386.

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willingness of the customer to pay, sales philosophy of the individual manufacturer (high-volume, low-profit margins vs. low-volume, high-profit margins), and the competitive environment facing the manufacturer.

II-12/2/4 Delete "geared or hydraulic press". A geared or hydraulic press is not needed for manufacture of the pump.

II-13/1/4 Delete the incorrect statement "Fabricators have no transport nor do they seem to have the economic wherewithal to get it." Add "Pump manufacturers Babacar Tine and Mamadou Cisse do own vehicles. Others who do not own cars or trucks rent vehicle services, which is a cost-effective way of operating for a small-scale producer until the business expands to a sufficient size."

II-14/1/3 To answer the evaluators' question about whether motorized pumps are a better technology, add "ATI financial analyses have shown that treadle pumps are more profitable than motorized pumps for market gardens of 0.10 to 0.66 hectares, which includes the majority of market gardens in Senegal. The FAO expatriate at the Center for Horticultural Development would confirm the inappropriateness of motorized pumps due to frequent breakdowns and high capital and fuel costs and the failure of past projects in Senegal that have subsidized motorized pumps. With the recent devaluation, motorized pumps are now twice as costly as before in Senegal."

II-14/1/3-4 Delete "We know motor pump manufacturers and distributors exist ... worked out." The statement is incorrect; there are no motorized pumps manufactured in Senegal, just distributors of imported pumps.

II-14/2/3 Replace "heretofore subsistence farmers" with "market gardeners" since treadle pump farmers were not subsistence farmers even before adoption of the treadle pump. These farmers produced vegetables and fruits *for sale.*

II-14/2/8-10 Agricultural extension was not an objective of the ATI/Senegal activity financed under USAID's Technology Transfer Project.

II-14/3/2-5 Delete "When queried, extension personnel seemed to be more pump extensionists/facilitators capable of selling, promoting, brokering, and training farmers in the intricacies of usage rather than providing agronomic technical assistance to pump users." Reference is made here to pump technicians, one pump manufacturer trainer and two pump use monitors, whose jobs do not include the provision of agronomic technical assistance. Manufacturers, and not the project staff, are responsible for selling and training farmers in pump use. Add "Under the next phase of the program, there will be two horticultural technicians. Their role will be to develop, test, and implement approaches for the sustainable commercial dissemination of innovative vegetable production and post--harvest technologies."

II-14/3/7-8 The absence of marketable surplus was due to the time of year (off/season). See response to II-14/3/1.

II-14/4/2 Replace "polyester" with "spun polypropylene".

II-15/-/1 Add "The dissemination approach for these new technologies will follow the model established in commercializing the treadle pump, wrapped filter, and Diambar stoves. The steps in this approach include a market study to determine the most promising locations; identification of producers and sales people capable of and interested in producing and selling the new products; production and sales training; market development through demonstrations and other promotional activities; and commercialization with private sector manufacturers and merchants carrying out production, sales, distribution, installation, and training in use."

II-16/1/3 Add "The stove manufacturers are in a different socioeconomic class from the pump manufacturers. The project chose to work with the artisanal metalsmiths because of their existing skills in producing traditional stoves. These are the same types of producers that have been so successful in Kenya. As in Kenya, project involvement has been required to build these producers' capacity (more so than has been necessary with the pump manufacturers)." See response to II-5/2/9 regarding the location of the stove producers.

II-16/1/last Add "Given the growing demand for the stove (100 percent growth in monthly sales in the past nine months), added emphasis is being given to increasing production through a two-pronged approach. First, productivity is being increased through the introduction of stove design simplifications and better tooling. For example, rivets used to attach the handles and other small parts, a very time-consuming part of stove manufacture, are being eliminated. The project also developed simple tooling to produce the stove's pot holders more rapidly. Furthermore, following successful testing of an imported rotary machine used in forming the stove's joints, local production of this machine will begin shortly. Second, ATI is training additional artisanal metalsmiths as before, but a new approach is being tried -- recruiting manufacturers with significantly greater capacity (e.g., large volume producers of sprinkler cans)."

II-16/2/1-5 Delete "as the stove...must be replaced." The stove's durability does not depend on the use of new or used metal; the liner is not fragile; and most of the scrap metal is purchased. Add "The stove is made from scrap sheet metal, most of which is bought (a small portion is scavenged). Eventually, stoves wear out or the clay liner must be replaced." After "about two years" add "The Diambar stove lasts about four times as long as the traditional all-metal stove because of the insulating effect of the ceramic liners and cement/ash mix used to hold them in place. Also, unlike the traditional stoves, the metal cladding for the Diambar is painted to protect against rust."

II-16/3/last Add at the end of the paragraph, "As a result of ATI's efforts, there are currently about thirty tinsmiths and two ceramics enterprises active in Diambar stove production in Senegal."

II-17/-/6 Add "The medium-scale pottery firm bought out a previous pottery firm's workshop and equipment prior to its involvement in the project. While some of the equipment may not be in use at all, some is used for making other ceramic products such as decorative tiles."

II-17/1/last Add "The fact that this entrepreneur secured a large loan from a separate World Bank-financed project to distribute stoves beyond Dakar is a good sign of the private sector's confidence in the sustainability of production and marketing of the Diambar stove."

II-17/2/6 The market has not been a bottleneck; production has been the limiting factor.

II-17/2/last Add "Because of the difficulty in developing interest among traditional stove traders who claim that the Diambar stove has too high an initial cost for their usual customers (despite the fact that it recoups the cost in charcoal savings after just a few months of use), ATI has also been active in helping to set up sales and distribution networks frequently comprising women's groups and their representatives.

"There are more than 150 merchants involved in sales. Sales of the stove have increased from a monthly average of approximately 300 between 1991 and 1993 to about 620 in 1994. More than one thousand stoves were sold in August 1994. By the end of August 1994, a total of approximately 13,500 stoves had been sold.

"ATI recognizes that stove sellers need greater amounts of capital to expand sales for the growing market. This has been accomplished to a limited degree through an existing credit institution and is currently being expanded through a recently created institution. In addition, as in the case of the producers, a revolving fund will be created in the next phase of the project to serve stove sellers.

"Responsiveness to greater Diambar stove demand will also be made possible through increased availability of capital under the PVO Co-Financing Project. A newly created credit institution has recently made a significant loan to one of the ceramicists. An application for another large loan has been made by one of the tinsmiths and is pending with the same financial institution. A revolving fund to be managed by the recently created stove producers association will supply additional needed capital."

II-17/3/7 At the Senegal project's stage of development, and given the Kenya experience, it is clear that sales are not slow. In fact, the production and distribution systems that ATI put in place are beginning to take root. Add "Signs of commercial

sustainability and indications that the stoves technology has been accepted by the private sector abound:

* Approximately 30 active tinsmiths and 2 ceramics enterprises are active in full-time manufacturing.
* At least 12 metalsmiths have been trained by private sector artisans that the project trained.
* More than 150 stove sellers, including about 20 sellers, became active on their own initiative.
* The majority of manufacturers and vendors are seeking ways to increase their production and sales capacity.
* Two formal financial institutions have made loans to stove manufacturers and vendors.
* Total sales were over 13,500 stoves through the end of August 1994, approaching 10 percent of the Dakar market share after less than three years of commercialization."

II-18/3/1 Delete "quaintly termed". Add "The bulk of all labor devoted to food processing in West Africa is in hand-pounding of grain. Most women in Senegal spend 1-2 hours per day performing this arduous task using a wooden mortar and pestle. An ATI engineer came up with an idea that had never been tried before -- adding a steel tip to the pestle. Based on only limited efforts so far, more than 300 pestles have been equipped with the metal tip or ring."

II-18/38-39 At the end of the paragraph, add "Experience so far indicates that the price (only CFAF 300, roughly $0.60) does not seem to be a major obstacle. However, a concerted effort will be required to train large numbers of manufacturers and to promote the improved technology so that largely illiterate women will know about it. These tasks are planned for the Thies region in the next phase of the Senegal program, to be funded by the PVO Co-Financing Project."

II-18/5/5-6 It is incorrect to state that the producers of the wrapped screen (filter) "don't seem to have either the equipment nor the knowledge as to how this technique works" and that "it is doubtful it can ever be spun-off to the private sector in Senegal". The screen is not troublesome to a trained installer, and installation *does not require several pumps.*

Add "There are five trained commercial installers and more than 200 wrapped screens installed so far (approximately 130 have been commercially installed in the last year and a half, excluding the 80 done earlier for field testing). A trained installer with knowledge of well jetting can install a wrapped screen in *less than one (1) minute.* Pump manufacturer Babacar Tine currently installs wrapped screens for a price of CFAF 32,000 ($62). This one producer installed eight in September of 1994.

II-19/-/2-4 Delete "In instances where... unsubsidized use." Installation of the wrapped filter by hand excavation is not physically possible under Senegalese conditions; the production and installation of wrapped screens are not subsidized in the Senegal project.

II-19/4/6-10 "... if ATI is to move into other agricultural interventions ... they will need to add more experienced staff ..." Add "ATI incorporated this idea into its proposal to the PVO Co-Financing project before this evaluation."

II-19/10-12 Delete "But by going in this direction ATI duplicates programs and specialized services of other organizations ... which in turn weakens its argument that it is unique and special." ATI's market gardening activities do not duplicate efforts of any organization in Senegal; the FAO team at the Center for Horticultural Development has often complimented ATI/Senegal on filling an important void. ATI/Senegal relies on commercial links to connect applied research and enterprise development with the farmers – a well-known gap in agricultural programs in Africa.

II-19/last/1 The bran discharge mill is incorrectly called a "son separator or winnowing machine." Modify accordingly.

II-19/last/1 and 3 Delete the word "apparently", which appears three times in this paragraph. The prototype exists and has been tested.

II-20/2/1-5 Delete "The ATI Senegal project is reportedly manufacturing or promoting the private manufacturing of biopesticides from Neem tree products. It was understood these products are being distributed by project personnel ... although the team didn't see any evidence of their use or manufacture". This paragraph is factually incorrect.

Replace the paragraph with "ATI/Senegal did a limited amount of testing of the effectiveness of neem seed biopesticides on farmers' fields, which found some potential for these products. ATI has not yet promoted manufacturing or distribution of these products because the USAID Mission asked ATI to hold off until proof is available that these products are nontoxic to humans. The U.S. National Academy of Sciences has produced a book that promotes neem biopesticides as safe and effective.[11] ATI does not plan further neem seed biopesticide activity until at least 1996."

II-20/1/8 There is a misunderstanding illustrated here of the approach that ATI/Senegal plans to take with the bran discharge mills. Add "ATI/Senegal has not proposed manufacturing new mills. The primary market for this invention will be the

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[11]National Research Council. 1992. Neem: A Tree for Solving Global Problems. Washington, DC: National Academy Press.

several thousand existing mill owners whose mills can be retrofitted with the bran discharge system for about $60. For businesses that have already invested approximately $3,000 in existing motorized milling operations, this is a relatively low incremental cost. Mill owners will find this add-on feature attractive because it will increase revenue thanks to the additional dehulling service that it will offer customers."

II-20/4/1 Replace "seem to be" with "are" for factual correctness.

II-21/Section 33 This whole section is out of date and should be deleted. Add "The PVO Co-Financing Project has verbally approved funding of $878,019 for the next phase of ATI/Senegal's program. The budget redimensioning that was still pending at the time of the evaluators' visit has been done and is a standard part of the procedure for all proposals they received due to the limited budget available and the 50 percent change in the exchange rate for the local currency."

II-21/3/1-5 Delete "This event -- or better yet non-event telegraphs the great support and interest the Mission places on supporting NGOs. Excuses may fly, but at the end of the day there really is no excuse for this apparent long delay in processing the proposal." Such criticism of USAID/TransCentury is inappropriate for this evaluation.

FACTUAL CORRECTIONS TO ANNEX III OF DRAFT EVALUATION
(by page/full paragraph/line)

III-1/1/3 Delete "Apparently" before "to negotiate" since it appears to cast doubt on a matter of fact.

III-1/1/5 After "in Zimbabwe" add, "The main stumbling block is obtaining tax-exempt status since without it the salaries of project staff would be taxed at rates as high as 60 percent and imported vehicles would be charged full duty. ATI was also informed that another international NGO had tried to set up operations in Zimbabwe, but was unable to obtain the tax-exempt status and eventually gave up."

III-1/1/8 For clarification, add the following as a footnote after "implementing agency." "The initial field testing by WUSC began in 1986 when ATI's mode of operation was to work with NGOs that had existing activities in LDCs, rather than implement projects directly. WUSC, which already had tax-exempt status with the Government of Zimbabwe, had made initial efforts to introduce the ram press to Zimbabwe on its own before ATI had provided any financial support (a WUSC staffer had brought a press into the country from Tanzania). When ATI and the British organization Africa Now began funding the Zimbabwe Oil Press Project in 1989, WUSC was a logical choice."

III-1/1/9-10 Delete the incorrect statement "While this gave ATI an entre [sic] into Zimbabwe without waiting out the basic agreement process, it did not permit them to post an expatriate in Zimbabwe to implement the Zimbabwe Oil Press Project (ZOPP)." Add "WUSC hired an expatriate, Peter Jones, who was in charge of the project from its inception until 1991. This individual did not prove to be satisfactory due to personal problems and after he was asked to leave, the project did not have sufficient funds to hire another expatriate. WUSC then hired a local woman as project manager who also proved unsatisfactory and was terminated in late 1992. In 1993, ATI hired a Zimbabwe-based consultant, Andrew Macpherson, to assess the pros and cons of partnering with other organizations. The consultant recommended that ATI keep WUSC as the implementing agency.

"Since then, an expatriate management consultant has served as acting project manager in the interim. She has ended up staying longer than expected because the first candidate selected for the position decided to accept an offer from UNDP. The new project manager, who will start in November 1994, will explore two possibilities for legal organization -- establishing ZOPP as a local NGO and privatizing ZOPP as a Zimbabwean company."

III-1/2/1-3 Delete "Although WUSC's administrative and financial management of the Zimbabwe project might have been acceptable, they were not able to manage the technical implementation of the project." There is no evidence that the administrative and financial management was unacceptable; WUSC was never meant to manage the

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technical implementation -- that task is performed by ATI and the Regional OILS project, which complement WUSC's administrative services and legal presence with technical skills and resources." ATI would point out here that the entire framework of the Regional OILS Project is ignored in the evaluation report. OILS staff consists largely of teams of experts based in Africa who provide a collaborative system of support to partners -- an innovative and cost-effective means of expanding the benefits to larger numbers of oilseed processors and farmers, and also sharing the lessons learned across developing countries. The OILS project's assistance permitted the rapid "ramp up" in sales once manufacturing problems were resolved.

III-1/4/1-4 "...the WUSC agreement adds two layers (at least, possibly three) of bureaucracy onto the project." The evaluators' position that setting up ATI's own field presence is the best way to operate a project is based on a misunderstanding of the role of WUSC, an integral player in the Zimbabwe operation which, incidentally, has helped acquire CIDA funding for the project. Delete the phrase and add "WUSC operates as administrative support to the ZOPP unit that implements the project with explicit direction and assistance from ATI".

In a footnote, add the following facts explaining ATI's motivations and ability to establish new field offices. "ATI prefers, when possible, to establish collaborating relationships for project implementation as a rapid and cost-effective way of spreading impacts. Financial constraints prevent establishing a separate ATI project and office everywhere. ZOPP began with minimal funding which was increased only following initial results; ZOPP still, however, has operated for six years on only $465,000. Reliance on local staff is the key factor in the sustainability. ZOPP's chief extension agent, Misheck Kanjanda, and technical advisor, Vukile Mlambo, both Zimbabweans, play a central role in the project that has not been recognized by the evaluators.

III-1/4/7 Add the following as a footnote at the end of the paragraph. "The previous USAID/Zimbabwe Mission Director, however, was not supportive of ATI's establishing a local office and was unenthusiastic about the programs of other U.S.-based PVOs (his primary interest was in linking U.S. support to government macroeconomic policy reforms). A new mission director has recently arrived in the country.

III-1/5/3 Delete "Mrs. Michelle Perron, the wife of the first secretary, CIDA." Add "Ms. Michèle Bousquet, the wife of the First Secretary of CIDA."

III-1/5/4 Add the following after "CIDA." "One of Ms. Bousquet's tasks has been to recruit a new project coordinator. USAID encouraged ATI to hire Zimbabweans, given the significant local expertise. As a result, WUSC advertised for a Zimbabwean from the private sector who could assist in implementing a more commercial strategy for ram press dissemination and is familiar with local commerce. In the spring of 1991, an offer was made to a candidate who had many years of experience with Lever Brothers in oilseed processing. After negotiations, this individual accepted a more

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remunerative offer from UNDP. The search resumed and another Zimbabwean with an MBA, Ernest Mupunga, was recruited and agreed to take the job in November 1994."

III-1/5/7 Change "Mrs. Perron is currently being maintained ... while a new permanent project director is hired" to "Ms. Bousquet is currently being maintained ... until the new project director is hired."

III-2/-/1-3 Delete "Interviews of candidates have been held ... ATI plans to hire a Zimbabwe national for the position", which is now obsolete information.

III-2/2/1-4 Add the following as a footnote after "disengagement of ATI." "An original project plan and subsequent plans submitted to Africa Now and other FICAH donors set forth the approach and overall goals for the beginning and middle of the project, but did not set forth a vision for the end of the project, including an exit strategy. A complete blueprint would be somewhat hypothetical given the reality that the ZOPP project has had to rely on raising relatively small amounts of money from a variety of sources over time."

III-2/4/3-6 After "auditors" add "ATI has hired Ernst & Young to conduct audits locally in Zimbabwe, a firm also used by USAID/Zimbabwe."

III-2/4/last Add after "accountability of donor funds" the following sentence. "Nevertheless, ATI is in compliance with all USAID financial reporting and auditing requirements for its grantees."

III-3/-/6-7 Delete the incorrect statement, "ATI Zimbabwe has not followed... management." ZOPP has in fact had expatriate leadership and also has an excellent local staff below the level of project manager, including the U.S.-educated technical director.

III-3/-/1-11 ATI would point out that the expatriate/counterpart model can sometimes be appropriate. In Zimbabwe, this model ignores the wealth of talented, well-educated nationals. In Senegal and Uganda, ATI has opted to set up its own projects with expatriate directors from the beginning.

III-3/2/1-5 Correct the inaccuracies in the first sentence of the paragraph according to the following facts. The coffee program will be implemented by local NGOs funded by the IDB, who will pay ATI for technical assistance services. The Guatemala Ceramics project is implemented by a local NGO that received the bulk of project funding from a Spanish foundation. The Uganda project is implemented by an ATI field office headed by a U.S. expatriate. The Tanzania project has been run by a U.S. expatriate since its inception in 1984, and a new expatriate will soon be taking over this job in January of 1995.

III-3/2/5-7 Delete "While this may save money ... headquarters payroll." Except for the consultancy of the expatriate acting project manager, no ZOPP staff are on the ATI headquarters payroll; they are paid from funds *leveraged expressly for ZOPP.* Add "ATI believes that part of the task in building national capacity is to hire host-country nationals, who, in some cases, require considerable support from both headquarters and OILS regional staff.

III-3/2/4-5 Delete the incorrect statement that ATI "prefers to manage its overseas projects from Washington... at site." Our largest project is managed by an expatriate fielded by ATI in Bolivia. The initial three years of the Senegal project were managed by an ATI expatriate before the reins were turned over to a local project manager, who had served as his deputy. The trend in ATI projects has gone from no expatriate managers to employing them in half our programs in Africa -- Uganda, Tanzania, and Nigeria.

III-3/2/7-8 Delete the assertion that "full authority and responsibility is seldom given to indigenous people on the headquarters payroll." No ZOPP staff, indigenous or expatriate, are on the ATI headquarters payroll; they are paid from funds leveraged expressly for ZOPP.

III-3/2/8-13 "And in order to manage... in some circles!" Delete or correct these sentences. ATI does not run heavy phone and/or fax expenses related to the project in Zimbabwe; no actual cost data were analyzed which show otherwise. ATI did send a number of phone calls and faxes during the evaluators' field visits to provide them with the most up-to-date information. In addition, arranging for OILS consultancies requires communications through Washington because of the very poor communication systems in Africa.

Add the following as a footnote at the end of the paragraph. "ATI has had to take a more active role in managing ZOPP from the head office than it usually takes because of the problems with the first two project directors and the difficulties in hiring a replacement with a strong private sector background. The Regional OILS project (now with its main office in Zimbabwe rather than Washington) allows ATI to provide wide-ranging technical and enterprise development assistance from experts in the U.S. and Tanzania who already have experience with this type of project."

III-3/3/1 Delete the incorrect statement "Prices and service levels are set from Washington ... supervisory visits." *Prices for technologies have never been set in Washington for any project; they are and have been set by the manufacturers.* ATI provides manufacturers with information on estimated production costs which the manufacturers use at their discretion. ZOPP follows a tendering process requesting bids from manufacturers and accepting the lowest bids. ATI does not set service levels from Washington; these are determined by requests from beneficiaries and the field project budget. ATI/Washington staff do backstop ZOPP on administrative

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matters such as fundraising, budgets, financial and progress reporting, and USAID requirements and information requests.

III-3/last/3-end of paragraph Delete "But ZOPP has apparently ... effort hasn't paid off." ZOPP does not view NGOs as a major client group. ZOPP has only begun exploring relationships with local NGOs because it had limited resources and other priorities that were more pressing (e.g., demonstrating the technology, sourcing planting seed for the following year after the worst drought in recorded history, and providing training and technical assistance to local manufacturers). ZOPP has gone slowly in this regard to be sure that these NGOs have a sufficiently commercial approach because an organization that gives presses away free or at a fraction of their cost could disrupt commercialization efforts. Add "While ZOPP will explore relationships with local NGOs to see if they are a viable and cost-effective mechanism for increasing outreach to potential oilseed processors, its main concern is with individuals and groups interested in purchasing the press. ZOPP has devoted considerable attention to assisting individual women entrepreneurs and women's groups who want to establish oilseed processing enterprises."

III-4/2/1-5 Delete "This attitude seems to reflect ... high degree of subsidization noted." While it is true that the regional WUSC representative made this statement on pricing, viability and commercialization, he has little knowledge of or involvement in the project; subsidization level of the project is low for NGO projects in Zimbabwe. Add "Since the regional representative is not involved in the formulation of ZOPP's strategies, his comments have no bearing on the direction taken by the project. The degree of subsidization in the project is much lower than that of most other NGO projects in the country."

III-4/4/1 to III-5/1/8 ATI suggests modifying the entire discussion in these sections taking into consideration the following facts.

> The AGROTEC project is a UNDP project funded by Sweden and staffed by Swedish experts. When this project started three years ago, it held a meeting which ATI staff attended. At that time, ATI expressed an interest in collaborating with them, but the Swedish team showed no interest in collaboration.
>
> Rather than capitalizing on the research done by ATI and CAMARTEC, AGROTEC wanted to have a press they developed themselves; their press is very similar to the CAMARTEC BP-30. The design allows the press to be made without a lathe, although virtually none of the design changes actually relate to the elimination of lathe operations. The lathe is avoided by making the same parts using drilling, chiseling, and hand filing. It seems that AGROTEC's development of its own design duplicated technological efforts unnecessarily -- the AGROTEC press has never been disseminated.

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AGROTEC began training rural repair artisans in how to repair the new press, which was not yet in the field anywhere. AGROTEC had no plans to promote manufacturing. The repair training was scheduled at the same time that ZOPP was training repair artisans for the more than 500 presses that were in the field at that time as a result of ATI's project. (ZOPP staff who joined the evaluators in their meeting with AGROTEC reported that AGROTEC personnel told the evaluators that AGROTEC has disseminated no presses in the last three years, a fact the evaluators did not mention in the draft report.)

Regarding the small-scale oilseed processing conference, AGROTEC was required to hold it at the end of their project. Without consulting ATI in advance, they sent out an agenda to 40 invited participants stating that ATI's Tanzania project would host the conference, transport the attendees to our field sites, and deliver the keynote address. After the evaluators left, AGROTEC apologized to ATI for the lack of consultation. ATI agreed to make several presentations at the workshop, including the keynote address. The conference was a success.

ATI collaborates very successfully in Zimbabwe and throughout Africa as evidenced by the success of the Regional OILS Project. The organization has many non-donor partners in the OILS Project, including CAMARTEC/Tanzania, CAPU/Tanzania, WUSC, the Natural Resources Institute/United Kingdom, and VOPSIN/Kenya to provide a full range of expertise. In Zimbabwe, ATI's project has worked closely with Ministry of Agriculture, Dept. of Extension (AGRITEX), which is promoting hybrid varieties and improved cultivation techniques for oilseeds. In Zimbabwe, ATI has had discussions with a USAID-funded project that does subsector-specific business training and is developing a concept paper for a possible collaboration.

In Uganda, ATI is conducting demonstrations for more than 200 NGOs and women's groups in Lira and Apac districts. OILS is currently negotiating a partnership with ApproTEC in Kenya, which is headed by a U.S. expatriate who has been involved in oilseed processing there since 1987. OILS is also negotiating a relationship with KREP, a microenterprise credit program based in Kenya that was established through a USAID project.

Moreover, ATI has held two international conferences in Africa on the ram press for the benefit of other organizations. At the second conference in Nairobi in 1987, over 80 organizations from West, East, and Southern Africa attended. Since 1989, ATI has provided substantial technical assistance to many institutions involved in the oilseed subsector in Africa, including those on list below:

Africare/Zambia
CARE/Mozambique

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CARE/Lesotho
Food for the Hungry International/Mozambique
Christian Service Committee (CSC)/Malawi
International Rescue Committee/Somalia
UNICEF/Malawi
UNICEF/Mozambique
Catholic Relief Services/The Gambia
GTZ/Mali
Technical Consultancy Centre (TCC)/Ghana
UNICEF/Tanzania
LVIA/Tanzania
GTZ/Tanzania

III-5/3/4 Delete "ostensibly".

III-5/4/5-6 Delete "But so far, no formal agreement exists, the team was told." Add "ZOPP recently hired a consultant from the Agriculture and Rural Development Authority (ARDA) who will plan possible linkages with that organization, such as marketing of seedcake for animal feed. This may lead to a formal agreement for cooperation."

III-5/5/3-5 "The three-year AGROTEC project was supposed to include the preparation of extension manuals. ATI has received a copy of one AGROTEC training manual for manufacturers, but has not seen any extension manuals. ATI's understanding is that AGROTEC has not yet started preparing a user's manual. In fact, AGROTEC is now discussing the possibility of providing $15,000 for preparation of a joint manual with ATI."

III-6/1/ In the section entitled "Costs and Benefits," the evaluators greatly underestimate benefits by not following the principles of economic analysis and recommendations of evaluation manuals prepared by USAID, the World Bank, and other NGOs. The actual benefits are the net present value of all future income gains generated by the use of the press, which are much higher. The profits earned by press owners from sale of oil and seedcake and provision of service pressing over the entire lifetime of the press, the returns to labor of farmers growing oilseeds, the wages of hired press operators, profits of press manufacturers, and wages of employees of the manufacturers comprise these benefits. The entire section needs to be revised to eliminate errors and add necessary facts.

III-6/1/3-4 According to information provided to the evaluators by the Acting Project Manager of ZOPP, the number of presses sold in Zimbabwe through 8/5/94 totaled 546, not 635 as listed here. The correct number should be used in the rest of the calculations in this section.

III-6/1/4-6 Replace "Beneficiaries and ... possibly given away initially" with "All 546 of these presses were either purchased by individuals and producer groups directly or indirectly through NGOs. In addition, 5 presses were given away to NGOs or leaders in Zimbabwe, 2 were dismantled by the technical advisors in their work, and 1 was left in South Africa after it was demonstrated there. Six presses have been loaned to users for a testing protocol and a memorandum of understanding has been signed by each of the users in the test; these presses remain the property of the project."

III-6/1/6-7 Replace "Eighteen presses have reportedly been exported to neighboring countries" with "Eleven presses were sold by ZOPP to Food for the Hungry International in Mozambique, 2 were sold to private individuals in Swaziland, and 2 to CARE in Lesotho, for a total of fifteen. (Also, 49 presses from Tanzania have been exported to other countries, as of June 30, 1994.)"

III-6/1/9 Change "big" to "medium-sized" when referring to the CAPU to avoid confusion with the larger, original Bielenberg press. Change "cost" to "cash price" here and in III-6/1/11.

III-6/1/12 After "(US$204 approx) [sic]" add "If the same machines are purchased on terms of six months credit with a downpayment required, a 45 percent/year interest rate is built into the purchase price, resulting in a price of Z$2,225 for the CAPU and Z$1,805 for the CAMARTEC."

III-6/1/12-14 Delete the incorrect statement, "These funds have been and are presently being used by ZOPP to finance ... to obtain a total cost of the project today." Add "ZOPP has been serving as a sales broker between the manufacturer and the purchasers, and the bulk of the total receipts from press sales goes to the press manufacturers, not ZOPP. The price ZOPP charges buyers of the press covers the manufacturers' wholesale price and only the margin between the wholesale and retail prices is kept by ZOPP to cover training and transport costs. Sales from presses are not being used to finance ZOPP operations."

III-6/1/14-17 ATI notes that expenditures on the press are not expenses of ZOPP and the income gained by press manufacturers is ignored here. Expenditures can be counted as costs to press buyers, but then the profits of the press manufacturers and returns to labor and other factors of production in manufacturing should also be counted as a benefit. Since it is incorrect to add the $148,300 to the $465,000 in project costs without recognizing the income gains, the calculation should be revised to exclude the $148,300.

Add "The $465,000 already includes the cost of the project's revolving loan fund to finance press purchases, overcoming the capital market imperfection of not providing credit to small-scale producers for profitable investments. It also already includes ZOPP's expenditures for seed distribution, publications, demonstrations, and

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workshops to increase the technical and managerial capabilities of oilpressing enterprises."

III-6/1/25-26 The $1,066 per press figure (and accompanying description) is incorrect and should be deleted. The evaluators' use of total ATI project costs since the inception divided by the number of presses sold as a measure of what it currently costs ATI per press sold confuses *average* costs and *marginal* costs. The current marginal costs are much lower than the average costs because sunk costs should not be included in this calculation.

Even counting the sunk costs for R&D, training of manufacturers and users, quality control, and information dissemination, they would have to be amortized over the cumulative number of ram presses that will be sold in the future, not just those sold to date. While this information cannot be predicted with certainty, it would result in a substantially lower cost per press.

III-6/2/2-3 and the entire chart on III-7. Add "It would be double counting to add these costs to the actual expenditures by the project, because they are already included in the total expenditures."

III-7/item 1 The prices listed by the evaluators here are out-of-date and inconsistent with those on III-6/10 and 12. The sale prices for cash buyers need to be corrected from Z$1,405 for the CAMARTEC to Z$1,505 and from Z$1,750 to Z$1,925 for the CAPU. The sale prices on credit need to be corrected from Z$1,750 to Z$2,225 for the CAPU and from Z$1,655 to Z$1,805 for the CAMARTEC. These prices have been in effect since July 1994.

Add a footnote that "ZOPP incorporates a commercial rate of interest, currently 45 percent per annum into its loans, which have a six-month term and a required downpayment. The interest cost is built into the press price for buyers who purchase a press on credit because otherwise, for cultural reasons, Zimbabwean farmers often view repayment of principal alone as fulfillment of their obligation. The interest payment built into the price of presses sold on credit should be subtracted from the 'total related subsidized costs' listed here." ZOPP is following an unsubsidized approach to credit, which is quite distinct from most NGO programs providing loans to farmers or microenterprises in the country.

III-7/item 2 Figures should be changed to reflect the following:

> The cost of delivery is erroneously based on transport of a single press at a time, which is not the project's practice, especially for distant locations. The project usually delivers 4-5 presses at a time. Therefore, the transport and training cost estimate is 4-5 times too high for the two specified locations. Moreover, Bulawayo is an atypical location much farther than the main project

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areas where the bulk of the presses were sold, which further overestimates the typical transport costs. The main project area is north and east of Harare around Manicaland, Mutoko, Darwin, and Gokwe -- areas that are about a 2½ - 3 hour drive from Harare. Bulawayo is much farther to the Southeast. As an alternative to delivering presses to distant locations, ZOPP is planning to provide technical assistance to manufacturers in three or four additional towns and foster a network of private sales agents working on commission in other parts of the country.

Bulawayo is well outside of ZOPP's regular project area. ZOPP has only delivered about 25 presses to Bulawayo out of the 546 presses sold, but it no longer pays the costs of distributing presses there from Harare. Since the delivery cost estimate for Bulawayo is not representative, this column for Bulawayo costs should be removed. The project trained a private sales agent in Bulawayo, and several manufactures are making the press now in Bulawayo and Gweru (about halfway between Harare and Bulawayo) to meet the local demand although assistance from ZOPP is needed to improve the quality.

Rusape is also considerably farther than the area where the project has sold the most presses. While the project does still serve clients in Rusape, it should be noted that the costs of delivering presses there would be an overestimate of typical delivery costs.

III-7/item 4 This repair cost should be removed from the analysis and the text should note that "ZOPP no longer bears the costs of press repairs that it did in refurbishing the first 110 large presses (*not* the CAPU or CAMARTEC) made when there were design and quality control problems with the manufacturers." Here, it is incorrectly assumed that 100 percent of the presses ZOPP now sells will be repaired at ZOPP's expense when in fact the initial design problems have been resolved and ZOPP no longer bears repair costs.

III-7/item 5 ZOPP's mark-up over the wholesale price should be subtracted from the costs borne by ZOPP to calculate the project's subsidy. In the case of credit sales, the interest charge incorporated into the higher sales price of presses on credit should be subtracted. Correct these errors and add a footnote that acknowledges the new strategies developed to reduce the direct costs of extension, distribution, and training in the Zimbabwe project.

III-7/footnote 1 Change "Mrs. Michele Perron" to "Ms. Michèle Bousquet".

III-8/1/item 1 Because the confusion between average and marginal cost (see III-6/1/25-26) seems to be the basis for the statement that "the selling cost of a press is only the tip of the iceberg in terms of true, total opportunity cost", this statement should be modified or deleted.

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III-8/1/item 2 Delete the incorrect statement that "the project is fully supporting manufacturing". Add "Manufacturers are bearing all of the fixed and variable costs of producing the ram press and are earning a profit on top of that. ZOPP has subsidized promotion and distribution, but a significant portion of the distribution cost is recouped by the margin ZOPP receives over the wholesale price it pays for the presses."

III-8/1/item 3 The statement that private manufacturers would have to "double or even triple and maybe even quintuple" their prices in the absence of ZOPP activities is incorrect because of the previously mentioned confusion of average and marginal costs of distribution.

III-8/1/item 4 Available analyses refute the idea that an increase in press price would jeopardize its profitability for purchasers. The cashflow analyses prepared by Shannon Johnson for Zimbabwe in 1994 and Eric Hyman for Malawi and Uganda in 1993 and Tanzania in 1991 indicate that rural oilseed processing is so profitable at a reasonable capacity use rate that the price of the ram press could be substantially higher and still leave considerable incentive for people to buy the press.

III-8/2/2 Because many of the evaluators' recommendations are being addressed in activities which predate the evaluation, the following four paragraphs should be added.

"ATI agrees that an exit strategy is needed for ram press promotional efforts and has been developing strategies to move toward a more commercial approach. Well before this evaluation, ATI hired a consultant, Andrew Macpherson, to examine ways in which subsidies for technology promotion and distribution could be eliminated in the regional OILS program by relying even more on commercial, private sector mechanisms.[12] Since July of 1994, he has been on our field staff as Commercialization Coordinator/Regional OILS Director and is based in Zimbabwe.

"In May of 1994, before the evaluation, ATI held a meeting of key OILS program staff specifically to focus on commercialization strategies; the proceedings of this meeting were made available to the Evaluation Team. As recommended in these discussions, ZOPP has already started working through sales agents, who receive a 7-10 percent commission on the presses they sell. To reduce the level of subsidization by covering more of the distribution and user training costs, ZOPP now charges a 21 percent margin over the wholesale price.

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[12]Andrew Macpherson: Zimbabwe Oil Press Project (C93-0122). Implementation Arrangements Review and Recommendations. August 26, 1993, prepared for ATI.

Andrew Macpherson, Tanzania Village Oil Press Project (C93-0158). Status Review and Program Recommendations for Development of a Sustained Commercially Viable Outreach. May 9, 1994, prepared for ATI.

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"As press production costs have fallen due to design changes, improvements in suggested manufacturing techniques, and competition among multiple producers, the manufacturers have reduced their wholesale price bids. ZOPP estimates that production costs are Z$900 for the CAMARTEC press and Z$1,050 for the CAPU. At these costs, manufacturing can make an ample profit in press production. As manufacturers' bids have declined, ZOPP has kept the retail price at the original level so it could reduce the subsidy to the buyers in transport and training. ZOPP plans to eliminate this subsidy and relinquish its role in distributing presses entirely. Repair artisans trained by ZOPP now stock spare parts for sale locally.

"ATI is also in the process of changing the leadership of both the Tanzania and Zimbabwe oilseed processor projects to put new commercialization strategies in motion. Erwin Protzen will replace Lynn Schlueter in Tanzania in January 1995. In the spring of 1994, ATI offered the job of the Director of ZOPP to a Zimbabwean who had worked for Lever Brothers in oilseed marketing for many years, but were unable to meet his salary expectations. ATI subsequently identified another candidate, Ernest Mupunga, with a strong business background, who will take the job in November 1994. ZOPP has been waiting for the new project manager before taking more steps for commercialization."

III-8/3/1-5 ZOPP has never "set social prices to introduce a new technology". Correct this error and add the following:

"Estimates of future profit potential for manufacturers do not need to account for all of the costs incurred by the project to date for technology and human resource development tasks such as

1. The necessary R&D for a technology (which is often funded by the public sector in both developed and developing countries)

2. Initial market development to demonstrate the profitability of a new product

3. Promotion of sufficient high-quality seed cultivation to allow for profitable processing (most of the sunflower seed grown traditionally had a low oil content and were hard, abrasive shelled).

4. Training manufacturers to produce the new machine and use tooling for quality control and more rapid production

5. Training repair artisans

6. Training farmers to operate an oilseed processing business (this includes operation and maintenance of the press, filtering of oil, involvement in service pressing, bottling and marketing of oil)

"After Zimbabwe emerged from the worst drought in recorded history and ZOPP finally resolved manufacturing problems with OILS assistance, plans were made to exit from the role of serving as an intermediary between manufacturers and press buyers. ZOPP initially promoted seed, but now has exited, leaving Pannar, a private sector company, to provide hybrid planting seed. The demand for hybrid seed has increased as a result of ZOPP's efforts. Once sufficient planting and pressing seed are available, high-quality manufacturing established, and a repair network in place, the sale price of the press needs to cover the fixed and variable costs of production including a normal rate of return (as it already does) as well as distribution and user training costs (only partially covered now in ZOPP's price margin).

"As the technology becomes well-known in the country, it will no longer be necessary for any entity to continue a major campaign of demonstration and promotion. Manufacturers will then just have to advertise their prices and location. They or their sales agents will provide transport and user training services. Macpherson estimated that manufacturers or sales agents could provide transport for 25 percent of the manufacturers' price for the press. The total additional marginal costs that manufacturers will have to bear, including transport, will increase the price of the press by 40-50 percent when ZOPP exits.

"On the basis of Macpherson's upper bound estimate of a 50 percent ex factory markup replacing the project's current 21 percent markup on cash sales, the CAMARTEC press could still be sold at Z$2,100 (compared to the present Z$1,405). A price increase of either of these magnitudes would not significantly reduce the net present value of the press for the purchasers."

III-8/3/1-7 Delete "If the foreigners set social prices... to charge real prices." This statement has no bearing on Zimbabwe, where ZOPP does not set prices. It requests bids from competing manufacturers and accepts the lower priced bids, which is a standard business practice. The Rusape firm specifically told the evaluators and ZOPP staff that ZOPP did not set his selling price.

III-8/3/5-6 Although information was made available to the evaluators, the draft report fails to acknowledge ATI's own strategy sessions on reducing subsidies and promoting commercialization. The report also fails to note the progress made in bringing real costs in line with prices, apparent from a historical examination of the project.

III-8/3/6-10 Delete "Evidence of this phenomenon was already observed in Rusape ... and only sells ZOPP distributed presses at their prices." Add "The Rusape firm, Star Engineering, does not have the capability and enterprise size of the successful producers of the ram press. Star Engineering does not have a lathe and therefore must subcontract with another firm at higher cost; it also lacks working capital to buy steel in bulk. As a result, it cannot compete with the bids of other manufacturers such as Tanroy, Shamen, and Renox. ZOPP does deal with Star Engineering as an agent

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for repairs, assembly of knock-down kits, and sales, but not for manufacturing." ZOPP is unaware of any facts to support the notion that it criticized this producer for "trying to realistically price his machines."

III-8/4/1-2 After "Successful interventions must charge real and complete prices ... profit margin etc. [sic]" add "Press manufacturers in Zimbabwe are already charging prices that cover their production costs including depreciation and a profit margin. They submit independent bids to ZOPP and will not continue producing ram presses after an unprofitable first batch."

III-9/1/2 "Project personnel identify manufacturers (the decision is made by ATI/W)..." This statement is incorrect as to ATI/W's making the decision and incomplete in other aspects. Delete the statement and add "Decisions on which manufacturers have adequate capability to produce the ram press are made by ZOPP staff in consultation with OILS Technical Advisor Jonathan Herz (who is based in Vermont, but has visited all of the candidate manufacturers) and ATI/W. The distribution of the orders among the qualified manufactures depends on their competitive bids, and these decisions are made entirely by ZOPP. Decisions to drop unsuccessful manufacturers have also been made by ZOPP."

III-9/1/5 Delete reference to a "negotiated price" since the project follows the standard business approach of requesting bids from multiple sources.

III-9/1/7 Delete "plus additional repair costs" since ZOPP no longer pays repair costs. Add "Originally, problems with poor manufacturing quality and unauthorized (and harmful) design changes developed due to a lack of close supervision in the initial stages of the new technology. Since the initial problems with the press were not the fault of the users, it was reasonable for ZOPP to cover this cost -- just as a private business would have provided a warranty for its products.

"Initially, there was no private sector system experienced in ram press repairs. Also, the project sold spare parts to press owners at cost, although it did subsidize the transport costs for the parts. The labor costs for installing most of these parts (piston, cylinder, brass bushings, pressure cones, CAPU pressure plates) is low because the replacements can be inserted in just a few minutes. For repair work (as opposed to replacement of spare parts), the press owners have had to contract with local welding shops; all the project did was to facilitate the contact between the users and these artisans, and, in some cases, help with the transport. ZOPP has also disengaged from the business of transporting broken presses for welding. After the initial period, ZOPP took an active role in helping train artisans to establish a private repair network. The project no longer provides this service now that private repair artisans have been trained."

III-9/2/4-6 "... will likely result in the death ... finances are exhausted". There is no evidence that such an outcome is likely. Delete the statement and replace it with "could make it difficult to achieve commercialization."

III-9/2/6-7 Delete "Likewise, by ATI fulfilling the proactive project implementation role, little, if any, capacity building with indigenous institutions ... by the project" since ATI has in fact made a substantial contribution in building indigenous capacity as stated in our response to III-8/3/1-5. Additionally, what is termed a "high" level of past subsidy has no relevance to what private manufacturers and sellers would need to charge now that ATI has made these developmental investments. The draft evaluation confuses ATI with ZOPP, which is an interagency project unit administered by WUSC. (In contrast, the Uganda Oil Press Project and the Senegal Technology Transfer Project are managed by ATI through field offices.)

III-9/3/2-3 Delete "for knock-down or assembled condition" and "with or without on-site installation and training, etc. [sic]" Add "ATI's experience with technology transfer to small-scale producers in LDCs and that of many other organizations indicates that not providing proper assembly, installation, and training would be ill-advised. The project correctly chose to make user training a mandatory part of sales; any other policy would have created many problems for the users."

III-9/4/1-2 Replace "It didn't seem appropriate ... servicing presses" with the more factually correct statement "ZOPP needs to fully implement the strategy for a more commercial approach to press sales, which has already been proposed by ATI consultants and staff."

III-9/4/6 Delete "which isn't even a legal entity." WUSC is legally registered; it is just not an ATI branch office (which is perfectly acceptable given ATI's interest in working with partner organizations).

III-10/-/5-7 This discussion of ROMA seems to suggest management from ATI/Washington in a manner inconsistent with the evaluators' other recommendations. Many internal conflicts have surfaced in ROMA; the suggestion that ROMA could perform many of ZOPP's functions ignores the fact that existing ram press owners do not want to pay dues to help new competitors become established in their areas. ROMA would need major institutional strengthening before it could take such a role.

Replace that discussion with the following. After "Even though ROMA has been organized ... institutional support efforts" add "because the association has faced internal conflicts due to the different interests of its members with motorized expellers and those with ram presses and the association's expectations of receiving subsidies for its operations. Ram press owners are reluctant to pay dues to ROMA because they are uncertain about what benefits the association can provide to them. After asking ATI to guarantee a large loan for them and being turned down, ROMA has

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begun using the funds accumulated from membership fees to provide working capital to members. ROMA could evolve into a potentially effective group in the future if it becomes more representative and focuses on providing specific services to members. ATI's project in Uganda is working with an association of press owners, but that association consists only of small-scale ram press enterprises."

III-11/2/4-8 Delete "If ATI is to play out its rhetoric, it should be intervening at several points along this value added chain." ZOPP has implemented multiple interventions along the value-added chain and while it is still involved in some of these areas, it has exited from others such as seed sales. Add the following three paragraphs:

"ZOPP has collaborated with AGRITEX, the public sector agricultural extension system, in promoting improved varieties of sunflower seed and educating farmers about better cultivation practices. As part of the drought relief effort, ZOPP sold improved planting seed to farmers who were having difficulty sourcing even the local, unnamed seed varieties. AGRITEX has become very efficient at promoting hybrid seed and educating farmers about better cultivation techniques for sunflower. Given the extensive outreach of AGRITEX, it would be duplication of effort for ZOPP to perform the same tasks.

"Over the past several years, ZOPP has worked with Pannar, a private-sector seed company. Initially, ZOPP purchased seed from Pannar at wholesale prices, transported it to project areas, and sold it to farmers. Then, Pannar began opening supply depots in a few central locations and distributing seed to locations where ZOPP had distribution points for transporting seed to farmers. After ZOPP had amply demonstrated to Pannar that there was a growing market for hybrid sunflower seed, this private company opened a more extensive network of supply depots in rural areas close to ram press owners. In 1994, ZOPP exited from seed promotion altogether.

"ATI has recommended hybrid seed in Zimbabwe because the substantially higher yield and shorter maturation period (which reduces risks from drought and pests and diseases) result in clear economic gains to farmers from a relatively small addition in production costs. Moreover, Zimbabwe has an effective private sector system of seed supply and relatively good transportation infrastructure. Tanzania and Uganda, by contrast, lack both of these factors and, as a result, ATI has not promoted hybrid seed use there."

III-11/3/5-6 Delete the incorrect statement "Open pollinated seed ... unless decorticated." Add "While it is true that birdseed varieties of sunflower have a hard shell and low oil content, some open-pollinated (non-hybrid) varieties are soft-shelled and have as high an oil content as hybrids, although they yield less oil and have a longer maturation period. The Black Record variety promoted by ATI in Tanzania and Uganda is open pollinated, soft-shelled, and high in oil; it does not require use of a decorticator before being processed in the ram press."

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III-11/4/1-12 This entire paragraph should be deleted because of factual errors and misunderstanding of the principal advantages of the ram press -- the fact that *no decorticator is needed with this technology.* The Tanroy decorticator was not designed to match any small-scale manual press, including those that do require prior decortication of the seed. The throughput rate (and capital cost) of the Tanroy decorticator is geared to the requirements of a motorized expeller. ATI is very familiar with decorticators. Eight years ago, ATI Engineer Carl Bielenberg invented a small, manual decorticator powered like a bicycle, and OILS staff member Erwin Protzen did further work on this design. Non-hybrid sunflower seed should not be equated with hard-shelled seed. Also, the cage is a very long-lasting part which will not require replacement for many years. Replace this paragraph with the following two:

"One of the advantages of the ram press is that unlike batch-operated, manual screw presses no separate step of decortication is needed prior to pressing of soft-shelled sunflower seed. This saves labor time and the capital cost of a decorticating machine. The most profitable approach is to promote use of soft-shelled seed in the ram press without any decorticator. It has been ATI's experience that it is relatively easy to convince press owners to grow soft-shelled seed (which can be open-pollinated or hybrid) after they have been shown the difference in oil extraction rates.

"Moreover, even undecorticated, hard-shelled sunflower seed can provide good oil extraction rates in the ram press if it is heated for less than five minutes to soften its shell. Only when the hard-shelled seed is neither heated nor decorticated prior to pressing will the oil extraction rate drop and the rate of press wear increase due to the abrasiveness of hard-shelled sunflower seed."

III-11/4/6-10 Delete "However, while the team has no evidence to prove ... the cost of the equipment could not be recovered over the useful life of the machine." The decorticators made by Tanroy are not being manufactured for use with the ram press. It is thus irrelevant that including a decorticator with a ram press in a package would probably not be commercially viable.

III-11/4/10-12 Add "ATI engineers estimate that the useful life is 5-7 years for the CAPU press and 3-4 years for the CAMARTEC press, depending on use. The larger Bielenberg presses produced in Tanzania in 1986 are still in use. Repair costs during the expected lifetime are included in ATI's financial analysis of the CAPU and CAMARTEC presses."

III-11/5/1-4 to III-12/-/2 The discussion of the benefits and costs of hybrid sunflower seed is inaccurate in agronomic terms. While hybrid seed is much more expensive per kilogram than open-pollinated seed, it still makes only a small difference in the total production costs per acre planted. Also, hybrid sunflower does not need much better agronomic care. It is more important for local varieties of sunflower to be planted at the right time than with hybrids because the local varieties take longer.

Delete "Hybrid seed is more than ten times as expensive as open pollinated seed ... out of reach." Add, "Even if hybrid seed costs Z$11/kg only 5 kg of it are required per hectare planted, so the total cost is only Z$55 and 8 kg of local seed would be needed to cover the same area at a cost of Z$8. The extra cost of hybrid sunflower seed is small relative to fertilizer and labor costs per hectare. This is a quite different case from groundnuts where 70-100 kg of planting seed is needed per hectare. In early 1994, the Government of Zimbabwe passed a law requiring that all new sunflower seed planted had to be of certified varieties (not necessarily hybrid).

"Hybrid sunflower matures 1 month faster, is tolerant of most soils, and requires relatively little water. In the event of late rains or rains that end early, it is the local varieties that are more susceptible to crop failure. Even without any additional fertilizer or watering, hybrid varieties will provide substantially higher yields than local varieties and the increased income from the higher yield is well above the additional cost.

"In fact, Zimbabwean farmers have demonstrated that they are willing to pay the unsubsidized cost of hybrid sunflower seed. Access to on-farm processing methods creates a good incentive for paying this higher initial cost and allows farmers to afford it. Even farmers in Zimbabwe who do not own a ram press now have an incentive to plant hybrid seed because the parastatal Grain Marketing Board, which used to pay only one price for sunflower seed regardless of type, now pays higher prices for hybrid."

III-12/-/2-7 Delete "In fact, the team was told that farmers are too poor... the subsidies provided by ZOPP." Food purchases usually come out of the woman's budget in Zimbabwe; women will find it worthwhile to save Z$3-4/week on edible oil, which is a significant portion of total purchased food costs. This fact, however, has nothing to do with the ability of the household to afford to buy a ram press if a loan is made available at a commercial rate of interest or to buy hybrid seed for planting a cash crop. Add "ZOPP has never provided any direct subsidies to reduce the price of hybrid seed to farmers. ZOPP previously did bear some of the costs of transporting hybrid seed, but it charged farmers its cost for buying the seed. While this did constitute a small, indirect subsidy, ZOPP is no longer involved in seed distribution. A private firm, Pannar, has taken over this task and charges the full costs, including transport and markups, through its own supply depots and network of retailers."

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FACTUAL CORRECTIONS TO ANNEX IV OF DRAFT EVALUATION (by page/full paragraph/line)

IV-1/3/7 NHPL's work was not done in collaboration with the NPRP and involved a different and much lower cost process than that subsequently used by NPRP. So, after "the past 16 years", delete "and, in collaboration with" and add "although the NPRP has not disseminated any variety to farmers on a wide scale. On a separate track..."

IV-1/3/last Because NHPL worked only with MS42.3, replace "and other promising varieties" with "using the low-cost technique of propagating multiple microshoots in a flask, followed by sand-rooting, which was subsequently adopted by the ANSAB project. Later, the Swiss Development Corporation fully covered (subsidized) the establishment of NPRP's tissue culture lab, which used the more conventional, high-cost technique of propagating and in vitro growing of a single plantlet per flask."

IV-1/4/1 Add the following as a footnote: "The use of small conventionally grown potato tubers used for 'seed' or cut from larger potatoes grown for the table ('ware potatoes') is very expensive for farmers and contributes to the low yield of this crop. It takes 1.5-2.0 tonnes of small, conventional tubers to plant a hectare of potatoes. This large volume of potatoes represents foregone consumption in this food-deficit country and must be transported to and from suitable storage facilities. (Transport is difficult and relatively expensive in Nepal due to the topography of the country and the poor network of roads.)"

IV-1/6/2 For completeness, add "private sector, for-profit" before "tissue culture lab"; after "the next step" replace "provided" with "for ANSAB was to provide".

IV-2/1/1 and 4 Replace "ATI" with "ANSAB".

IV-2/2/3 Because Botanical Enterprises was not selected by ATI and New Era, replace "was selected by ATI and" with "approached".

IV-2/2/5-6 "The project, as a matter of approach, decided to use only one lab (there are four in Kathmandu) as a quality control measure." This sentence is unclear and incorrect as to the location of tissue culture labs in Nepal and as to how and why only one lab was selected. Replace it with the following three sentences. "None of the other three private tissue culture labs in Nepal were interested in producing potato microshoots although the project tried to secure their interest. The other tissue culture labs all declined since they find propagation of house plants, flowers, and strawberries for export or bananas for local cultivation more profitable. ANSAB saw no reason to help establish a new, competing enterprise for potatoes during the initial stages when the market for the product had not yet been established."

IV-2/3/2 "These are provided free to trainee farmers..." This statement is too broad. Add before the beginning of the sentence "During the initial training period only, which lasts 21 days ..."

IV-2/3/3 "... or the farmers can keep the seed for their own use." For clarification, add the following sentence. "In subsequent seasons, the trained farmers have to buy the microshoots produced by Botanical Enterprises to continue production of the first-generation miniseed tubers at a commercial price."

IV-2/3/4 "(INCLUDING 34 OR 35 WOMEN)" The numbers are incorrect. Replace the parenthetical with "(including 29 women -- a significant accomplishment given the heavy workload and numerous social responsibilities and constraints women face)".

IV-2/3/5-6 Replace "But because of a serious technical problem with viral infections, the production at Botanical Enterprises has been severely curtailed" with "However, a technical problem has occurred this past year. An excessively high proportion of the potatoes grown from the miniseed tubers have turned out to be stunted or not true to variety.

"While the cause or causes of this problem are still being studied, several possible explanations have been advanced -- 1) the initial germplasm (now 5-6 generations removed from the original source provided by CIP) used by Botanical Enterprises may be infected by viruses (and aggravated by the fact that the company lacks training, equipment, and antigens needed to test its production for viruses); 2) Botanical Enterprises' use of a solid medium rather than the standard liquid medium in microshoot propagation; 3) quality control problems at Botanical Enterprises caused by not inspecting and discarding the entire flask when any abnormal growth can be observed; 4) viruses introduced by miniseed tuber producers in sand-rooting; 5) contamination in storage facilities; or 6) viruses introduced by farmers in planting miniseed tubers."

IV-2/4/1 Delete "in remote areas". The lack of good quality, disease-resistant planting stock is a problem throughout the country.

IV-3/1/1-5 "In 1992, ATI/Washington saw a target of opportunity... The ATI venture capital scheme approved [sic] and partially funded by the UNDP." The sequence of events described in these three sentences is incorrect. Replace the sentences with the following: "At the request of ADBN and UNDP, which were at loggerheads over a poorly designed project, ATI became involved in this project. Because UNDP was dissatisfied with ADBN's existing project plan, it asked ATI to revise the plan and to provide training and technical assistance to ADBN (despite the fact that UNDP and ADBN already had a signed agreement). An equity capital fund was a component in the project plan long before ATI entered the scene."

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IV-3/1/5-6 "US$150,000 was contributed by UNDP as seed money and..." This statement is incomplete. Replace it with the following: "UNDP originally allocated $100,000 to ADBN for the venture capital fund. ATI recommended increasing the venture capital fund to $150,000 and this change was accepted. The total project funding was $355,000."

IV-3/1/9-11 Delete "and managed" before "by ATI". The project was managed by ADBN. Delete "One local hire ATI-financed technician ... to review projects." ATI did not hire a Nepali to work with ADB/N staff.

IV-3/2/1 Replace "late 1993" with "1994", the correct year.

IV-3/heading 2 Replace "Biotechnologies" with "Bioresources".

IV-3/5/1 The first sentence is inaccurate. Replace it with "ANSAB is an autonomous NGO established with support from ATI. It was created as a consortium to link applied research and technology dissemination activities in nine Asian countries on biotechnologies geared for resource-poor farmers."

IV-3/5/2 The second sentence is incorrect. Delete it and add "Plans for ANSAB were underway in 1991 and the organization was officially launched in March 1992. ANSAB was primarily established as a coordinating agency, rather than a project-implementing organization. However, later when the potato tissue culture project began in November 1992, ANSAB took on the task of implementing this project and subcontracted for technical assistance from New Era, an NGO that had done prior work to promote cultivation of the same variety of potato using conventional tubers as planting stock."

IV-3/6/1 to IV-4/-/3 As noted above, plans for ANSAB were underway in 1991, before the Rio Conference, which took place in June 1992. Delete "ANSAB was started in 1992... to start a regional effort such as ANSAB and join forces." Add "ANSAB was created after a long effort on the part of ATI to determine the state of the art of agricultural biotechnologies for resource-poor farmers in Asia. ATI, which had prior experience in supporting such projects under its previous Cooperative Agreement with USAID in the mid to late 1980s, agreed with the government of Nepal in 1992 to locate the organization's headquarters in Nepal. Later that year, after the Rio conference on Environment and Development, ANSAB decided to establish a biodiversity unit."

IV-4/-/5-8 "The primary function of ANSAB's eight-country network in Asia is to make available ATI's technologies ... to small farmer/producers on a large scale throughout the Asia Region." The technologies are not ATI's; they are being developed by a variety of actors within the region and there are nine countries in the network. Add "ANSAB was the outcome of ATI's thinking process on designing the most cost-

effective way of responding to requests from project partners in several countries to undertake similar agricultural biotechnology initiatives. ATI decided that the best approach would be to organize a regional programmatic effort spanning a number of countries, rather than responding to a series of separate requests for individual discrete projects. The purpose of ANSAB is to make relatively mature biotechnologies available to small producers throughout the region. In 1994, ANSAB changed its name to the Asia Network for Small-Scale Agricultural Bioresources."

IV-4/2/1 Before the first paragraph, add the following two paragraphs.

"The total funding of the program in biotechnologies for resource-poor farmers amounts to $824,665, including $69,223 of direct funding, $559,866 of instrumental leveraging, $134,667 of ATI leveraging funds, and $60,909 of other ATI contributions.

"ATI helped ANSAB leverage $130,000 for its biodiversity unit from the Ford Foundation and IDRC. ATI also received a planning grant of $49,897 from the USAID-funded Biodiversity Conservation Network (BCN) for ANSAB to prepare a project on non-timber forest products in the Humla region of Nepal and contributed an additional $38,265 for this purpose. ATI provided $60,600 of seed capital for project implementation and approximately $600,000 in project funding is expected soon from a proposal in the final stages of BCN's review process."

IV-4/2/1-2 Replace "is responsible for" with "assists ANSAB in", which is factually correct.

IV-4/2/2-4 "ANSAB, while a Nepali organization is, as is so frequently the case in ATI's 'partnerships', a very ATI centered and controlled program at this stage." This sentence should be deleted -- both the characterization of ANSAB and the generalization about ATI's partnerships is inaccurate. ANSAB is a legally constituted international NGO based in Kathmandu and recognized by the Government of Nepal. It has a Board of Directors with representation from all nine participating Asian countries and has project activities in five Asian countries besides Nepal. It has received grants directly from the Rockefeller Foundation, the Ford Foundation, IDRC, and GTZ.

IV-4/4/1 At the beginning of the paragraph, add "While some ATI projects include a period of R&D, or more frequently, technology adaptation and field testing, a majority of the current projects do not."

IV-4/4/2-3 "... commercial viability and future sustainability are really non-issues [sic] for ATI. All costs are paid by the project as the experiment plays out." These statements are incorrect. ATI no longer supports any R&D activity that is not expected to lead to commercialization of the technology. Even in projects in the pilot phase, the costs are shared by ATI and local project partners, including NGOs, manufacturers

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and processors, and in many cases by individual farmers or farmer associations. Replace the statements with "one of the main goals for ATI is to determine the ultimate commercial viability of the technologies and plan for the subsequent commercialization phase."

IV-4/5/2 "The evaluators were told by the owners of two of the four private tissue culture labs in Kathmandu that no one is making any money at potato tissue culture." As mentioned previously, all four of these labs are not located in Kathmandu and only one of them has ever been involved in potato tissue culture.

IV-4/6/1-4 Replace "While the NPRP did not give the evaluators their production costs" with "NPRP has calculated its production costs, but this government agency did not share them with the Evaluation Team. However, they had reported to ATI's Program Economist that their production costs were Rs 2.5-3.0 per tuberlet, excluding any amortization of their fixed costs. Their estimate would also have to be verified." Delete "No amortization or depreciation expenses are included."

IV-4/6/4 For clarification, before "One private lab owner..." add "To date, NPRP has sold miniseed tubers at Rs 0.35 each for the 1-5 gram size. Even if NPRP increases its price to Rs 3 each, that is below their production costs. However, the output of NPRP is very low, its production having only just reached the level of 200,000 miniseed tubers per year, which is enough to plant just 4 hectares of potatoes."

IV-4/6/last "This gives an indication, at least, of the level of subsidy involved in this technology." This sentence is incorrect in correlating the subsidy level required by the two technologies. Add "The technology promoted by ATI is different from the one used by NPRP and is much less costly. With ATI's approach, only the stage through production of microshoots, rather than miniseed tuber production, is done in a tissue culture lab. Small-scale farmers root the microshoots in sand to grow miniseed tubers for their own use and for sale to other farmers as planting stock for ware potato production. With this less expensive process and their much lower overhead costs, small-scale farmers can sell miniseed tubers at Rs 0.50 each."

IV-4/6/5-7 "One private lab owner... a commercially viable operation." This sentence should be deleted as there is no substantiation of this hypothetical estimate of one private lab owner. This price estimate of tissue culture tubers, the sources for information (a government lab and private sector labs not familiar with sand rooting) and the manner in which prices were calculated are very questionable.

IV-4/last/1 to IV-5/-/1 Replace "This project is highly criticized by the Department of Agriculture, the National Agricultural Research Council, and the National Potato Research Project." with "One aspect of this project, the variety of potato selected for dissemination, has been strongly criticized by the National Potato Research Project, which is a unit within the National Agricultural Research Council. However, this same

variety is the one that is being promoted by the USAID-funded Rapti Zone Project implemented by Winrock and Devres."

Also add the following. "New Era originally obtained this variety from NPDP, when it was under different leadership, and NPRP had in fact signed a Memorandum of Understanding with New Era and the National Herbarium and Plant Laboratory in August 1991 for promotion of this variety. Mr. Sinha, the Secretary of the Ministry of Agriculture, has been supportive of ANSAB's potato project. Dr. Yadav, the member of the National Planning Commission for Agriculture has also highly praised the project and made it clear that the Government was willing to support its expansion.

"MS42.3 can produce yields of 25-30 tonnes per ha, which is clearly a substantial improvement over the local varieties currently grown by farmers in Nepal and the poor quality planting stock cut from ware potatoes imported from India. An important advantage of MS42.3 is its resistance to late blight, which is one of the principal diseases of potatoes throughout Nepal and this fungus can decimate yields. Consequently, this variety can be grown successfully without expensive and hazardous fungicide sprayings. It is true that MS42.3 is susceptible to black wart, but wart is limited to small pockets in the Eastern part of the country. ANSAB has always recognized this potential problem and the project is not working in those parts of the country.

"ANSAB has operated under the advice of some of the most knowledgeable potato pathologists in the world, including Dr. John Neiderhauser, recipient of the World Food Prize for his work in potato. Mr. Wurster, the FAO Country representative, is also a potato expert and he has expressed interest in supporting a proposal to provide the project with potato virus testing capabilities. The project's technical coordinator, Mr. Bhomi, had previously been head of the then combined National Potato Research Program and National Potato Development Program.

"No single variety that is clearly superior in all respects to all other varieties and new ones are constantly being developed by the International Potato Center. Agricultural researchers sometimes tend to hold back from dissemination of varieties that could benefit farmers because there is always more R&D to be done. With Swiss Development Corp. funding, the NPRP has spent millions of dollars on potato research over the past 16 years without transferring any new variety to farmers on a significant scale.

"ATI's concern is with helping increase the incomes of resource-poor farmers by getting technologies out of the lab and into use on the land. ATI agrees that it is generally best in an agricultural program to rely on more than one variety and is encouraging ANSAB to work with at least three potato varieties over the next year. NPRP has expressed a willingness to sell germplasm of other varieties to the project and ANSAB looks forward to cooperating with them in the future. Botanical

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Enterprises states that it would not increase the cost or complexity of their operations to handle three varieties."

IV-5/4/1-2 The evaluators' definition of venture capital is geared to the U.S. economy. It misses the premise behind ATI's previous experiments with venture capital for promoting investment in small-scale enterprises, which is to share the risks and benefits of the investments and reduce risks by providing management assistance. Delete "One of the principal objectives of venture capital is to provide equity financing to high risk, innovative businesses that have shown substantial potential to generate high returns."

IV-6/4/last It should be noted that while ATI may rely on equity investments in particular programs in the future, venture capital (alternative financial mechanisms), per se, is no longer one of ATI's program areas.

IV-6/1/3 Replace "only one business has bought back the equity shares purchased under the program" with "only one business has bought back all of the equity shares after 15 months. Four additional businesses are meeting the targeted schedule in buying back shares from the ADBN; 75 percent of the investments made are already buying back their equity."

IV-6/2/3 Replace "UNDPs [sic] investment" with "UNDP's grant" because all of their projects are grant-funded. Then, add "Nevertheless, ADBN has increased its institutional capacity, the project staff have been trained to appraise and make equity investments successfully."

IV-6/3 Delete "the unilateral originator and" since as explained above, this project was originated by ADBN and UNDP, not ATI.

IV-6/5/1 "ATI's relationship with AID has been distant. ATI appears to have taken the position that it has a program to carry out and any involvement or relationship with AID is unnecessary." This is incorrect. Replace with "ANSAB had scheduled three field visits to the potato project with the USAID ARD Director, who cancelled out on each occasion for one reason or another. ANSAB has also cooperated with the USAID-funded Rapti Zone project implemented by Winrock and DEVRES by providing potato planting stock. In addition, AID/Nepal signed off on the pre-implementation phase of the Non Timber Forest Products Project in Humla and has indicated it is in favor of the implementation phase."

IV-6/6/9 Modify the paragraph based on the following facts. ANSAB approached AEC for assistance with enterprise development, not training. However, AEC and ANSAB had a difference of opinion on the desirable scale of enterprises to be developed for miniseed tuber production. ANSAB wanted to focus on microenterprises

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owned and operated by resource-poor farmers while the AEC preferred a different model based on a larger scale agricultural input supplier.

IV-6/6/10 At the end of the paragraph, for completeness add "Also, ATI's midterm evaluation of the potato project, which is in the process of being prepared, recommends a strategy that will increase the involvement of better-capitalized firms in producing and marketing miniseed tubers."

IV-7/1/4 Delete the disparaging term "dirt farmer", which is demeaning to small-scale cultivators.

IV-7/2/1-6 Delete "ATI's operations in Nepal, despite appearances of participatory management, have seemingly been directed, ultimately from Washington with most decision-making being done long distance. In the venture capital initiative, while ATI hired and trained a young Nepali... his role was not to set policy or program direction. That role was handled long-distance by ATI Washington." ATI did not set policy or program direction for the ADB/N project. Add "ATI trained ADB/N bank staff on financial mechanisms so that the bank staff themselves could set policy and program direction for the project. ATI hired a young Nepali to gather impact assessment data."

IV-7/5/1-2 Delete the incorrect statement "There is no reliable method to screen tissue cultured micro-shoots for virus infection and..."

IV-7/5/2 See previous discussion and replace "it is believed" with "one possibility is that".

IV-7/5/5 Replace "... appeared to be virus infected. Plants showed symptoms of virus infection..." with "Plants showed signs of genetic damage ..."

IV-7/5/7 After "tubers" add "As mentioned above, at present, the cause of the stunted growth in some of the tissue-cultured potatoes is not known. Efforts are underway to determine the cause, which may or may not be viral."

IV-7/5/7-8 Replace "Without virus detection techniques... sophisticated equipment" with "Until the cause of this problem has been determined".

IV-7/5/10 "Reportedly, the machine needed may cost upwards of US$100,000." Delete this sentence and add "Virus detection techniques exist and both NPRP and a private biotechnology firm equipped by USAID, the Research Laboratory for Agricultural Biotechnology and Biochemistry (R-LABB), have this capability. However, NPRP is reluctant to test any material that did not originate in its own tissue culture lab for fear of introducing contamination. R-LABB has done similar testing in other crops, but would need to import potato virus antisera from CIP, at least initially.

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ANSAB has requested field kits for virus testing from CIP. It has also submitted a proposal to FAO to augment the private sector capacity for virus testing in Nepal."

IV-7/6/4 Replace "GON" with "NPRP".

IV-7/6/last Modify the last sentence to reflect the fact that several hundred thousand farmers in Nepal could benefit from virus testing facilities financed by the FAO. Alternatively, the existing biotechnology facility R-LABB could be used.

IV-8/1/last Add "However, even the NPRP expatriate, Greg Wells, complained to CIP headquarters about the previous CIP regional representative based in India. In September 1994, CIP replaced its regional representative."

IV-8/2/1-3 Because the Nepal Potato Project has in reality spent a very small amount of money, $95,000 to date. Only a small portion of this amount was used for the subsidy for farmers training. delete "The R&D subsidies to developing the potato tissue culture project have been high both in producing and testing the MS42.3 variety and in covering the entire costs of farmer training." Replace the sentence with "The costs of developing and testing the MS42.3 variety were borne by the International Potato Center; this investment bears fruit only if governments or NGOs (such as ATI) take the next step and bring the varieties from the lab to the land. ATI's contributions to the Nepal Potato Producers Project for farmer training and extension are actually very low for a project of this type. Farmer training sought to enable them to become commercial suppliers of improved potato planting stock to other farmers. The cost of training farmers was just a small fraction of the total project cost, therefore, the subsidization is low."

IV-8/2/12-13 After "how long can an ATI project remain in the pilot phase?" add "So far, ATI's potato project in Nepal has only been in the pilot phase for less than a year since its inception in October 1993. Most agricultural projects that have been successful in convincing farmers in LDCs to adopt new, higher-yield varieties have taken 5-10 years or more to achieve it."

IV-8/4/1-2 After "This means that eventually ANSAB/ATI will have to compete with the Nepali government's heavy subsidy unless, of course, the GON gets out of the potato seed business" add "Despite the high subsidies of the government seed program, it has made little headway in producing or distributing significant quantities of potato planting stock. At present the GON is not a serious competitor because it only produces enough miniseed tubers to plant 4 hectares of potatoes. In addition, Greg Wells, the expatriate assisting the NPRP, stated that the Swiss Development Corporation (which has already funded the government's potato research and development in Nepal for 16 years) has no plans to continue further financial support of this program after it ends in mid-1996. At that point, the government's ability to carry on is in substantial doubt."

IV-8/4/5 After "...subsidized government seed" add "After providing the necessary training ANSAB has no plans to provide any subsidy for commercial production of miniseed tubers by individual small-scale farmers using the sand-rooting process or some other form of enterprise."

FACTUAL CORRECTIONS TO ANNEX VIII OF DRAFT EVALUATION

ATI provided a list of 75 important contacts to the Evaluation Team who were representatives of donors and project partners. The List of Contacts shows that the Evaluation Team only had discussions with 8 of these 75 important donor and project partner contacts. If the Evaluation Team had been able to have discussions with more of the people who are most familiar with ATI's programs, many factual errors and misconceptions could have been avoided in the draft.

The List of Contacts includes Roberto Castro, the USAID/G/EID Technical Manager in charge of oversight of ATI for the bulk of the ATI-III CA period. However, the Evaluation Team spent no time in discussions with him, either before or after their field work, despite his request that they do so.

While the person who was the USAID/Philippines staff person most familiar with the Coconut Processors Project was contacted by the evaluators, the draft does not contain any of the favorable comments that she made about this project. In fact, a member of the Evaluation Team inappropriately concluded an hour-long conversation with her by asking the question, "Are you just saying that because you are a woman and ATI's program development officer for the Philippines is a woman?"

ANNEX II

ADDITIONAL LINE-BY-LINE COMMENTARY

ANNEX II

ADDITIONAL LINE-BY-LINE COMMENTARY
(by page/full paragraph/line and prefaced with general comments)

This annex addresses points that ATI contests that go beyond the factual errors contained in Annex I. These entries express ATI's views on issues, provide additional information, and point out the numerous examples of an inappropriate tone in the draft evaluation. Suggested changes for greater balance and completeness are provided in many cases. Points that are noted without a corresponding suggested change also provide important guidance for revision of the evaluation draft.

Executive Summary

i/4/3 "USAID expatriate staff, on the contrary, seemed neither to know nor to care much about what may appear to be another annoying centrally-funded projects [sic]." There is no indication that anyone in any of the USAID missions actually described ATI in this manner; the statement is inappropriate and unsubstantiated speculation.

ii/4/6-10 Referring to careful building of local institutions and managerial capacity: "If it is not done at the proper time with the proper inputs, neither the goals of commercial viability of the technologies themselves, nor the institutional capacity building goals, another facet of sustainability, will ultimately be achieved." While this statement is true, in the context of the evaluation draft it implies that ATI is not properly carrying out its institution and capacity-building work.

ii/5/1 Delete the phrase "As a countermeasure to weak field offices," which sets up, without documentation, the premise that ATI's field offices are weak.

iv/last/3 to v/-/2 Rephrase "If ways could be found to" with "We recommend that ATI find ways to..."

iv/2/3 Referring to the Small Producer Development Paradigm: "... ATI's efforts in this mostly academic exercise..." This comment inappropriately trivializes ATI's Small Producer Development Paradigm which provides the framework within which ATI analyzes development problems and implement sustainable development solutions.

v/5/1-2 The phrase "millions of dollars" is an exaggeration of ATI's expenditures on most of its projects. The level of resources available to ATI is usually only sufficient to fund the initial stages of activities.

v/-/1-2 "ATI might speak of the sustainability of its technologies with more authority than it can today." The statement is inappropriate in its tone.

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vi/bullet 1 "... or projects that purport to be successful." This phrase implies that ATI is misrepresenting the successes achieved in its projects.

vi/2/1-4 "ATI simply cannot continue to bury its head in the sand when the issues of institutional self-sufficiency and sustainability are raised. Organizations that don't face up to these issues are irresponsible." See the factual rebuttal in the line-by-line response. The tone of these statements is demeaning and inappropriate.

vii/1/5 ATI's success in leveraging funds from two private sector energy companies is not simply an indication that "private funding for the right project is available." It is the result of a unique intersection of potential U.S. corporate profits, small-scale producer profits in an LDC, and global environmental benefits. There are many other important cases where the second and/or third of these favorable conditions may occur without any potential for U.S. corporate profits.

Body of the Draft Evaluation

2/1/11-13 ATI agrees with the evaluators' observation that "ATI is one of a very few organizations that focuses on developing small scale enterprise by improving productivity and profitability through technology development, adaptation, and dissemination." This unique focus is in fact a key element in the justification for Federal funding of ATI.

2/1/10-11 Add "some" before "AID staff" as ATI has had substantial support since 1983 from the USAID offices in charge of oversight of ATI programs, even when there was opposition to Congressional earmarks at other levels of the agency.

3-6/Figures 1-4 Figures 1-4 describe "Cumulative Sales vs. *Actual* Quarterly Sales" (emphasis added), thus implying that ATI has misrepresented quarterly sales in some way.

3/-/7-8 Add "ATI agrees with the recommendation for developing an overseas representatives manual covering reporting formats, financial reporting procedures and systems, and other procedures. While ATI has held seminars and strategy brainstorming sessions in the regions and at headquarters, ATI also acknowledges the usefulness of increasing two-way communications between the Washington office and field offices or project partners."

23/1/2 "Of two producers visited, one alleges to have built a house with profits..." The wording of this phrase unjustifiably casts doubt on the veracity of the producer's statement.

30/2 "... under ATI's centrally planned pricing system." This language, a reference to failed socialist economic systems, is inappropriately "loaded."

Annex I

ATI designed and implemented its Bolivia alpaca producers initiative based on a methodology first tested in Guatemala. Initial results are impressive -- over 2,000 low-income Bolivian families have increased their annual income from US$300 to US$950 (even more if they are COPROCA stockholders) as a direct result of project activity.

The project boasts a strong benefit/cost ratio. The $5 million program investment will generate for many years to come annual product sales of $1.6 million, 65 percent of which will return directly to the producing families themselves. The sales will also generate additional foreign exchange earnings for Bolivia.

Leading European private sector textile industrialists and specialists -- including Eva Scherney, Loro Piana (who owns 13 factories and buys $200 million worth of fine fiber per year), and Carlo Marchetto -- have visited the project and commended project staff for putting together a profitable enterprise that will make a solid contribution to the Bolivian alpaca fiber industry.

ATI agrees in full or in part with many of the specific recommendations made by the Evaluation Team for institutional strengthening and sustainable business development. In fact, ATI has already begun to address these concerns and is presently seeking additional funding to continue these efforts.

I-4/7/3 Delete "supposed" before "business development projects".

I-4/8/1 Replace "lack of institutional development activities" with "limited institutional development activities".

I-5/4/1-2 "The Bolivia project is a winner. It is the only successful project on the *altiplano* with herders, the poorest segment of the Bolivian population." These favorable comments should be reflected in the Executive Summary and main text of the evaluation report.

I-5/5/last After this paragraph, add the following paragraph. "ATI/Bolivia has recognized and discussed this problem, one which affects all development projects with similar goals in any less developed country. In Bolivia, extensionists and rural community development workers have had to move from one project to another, following the money that pays their salaries. Given this experience with other NGO and government projects, staff members have developed attitudes and outlooks which are not easily changed."

3TH

I-5/footnote 1 Replace "positive sound of this" with "positive results achieved so far".

I-6/5/6 After "opportunity for stable employment." add "ATI/Bolivia has devoted much time in its monthly meetings with the extensionists and informal discussions in the field showing how the project can be self-sustainable. However, words are often not enough. Only after the staff sees this happening will they begin to believe it. A similar situation had occurred with the AIGACAA alpaca producers -- they really did not believe the project was going to happen until it happened and did not count on receiving any economic benefits until the project started buying large quantities of fiber at higher prices and they had the money in their pockets."

I-7/2/3 After "part of the for-profit business" add "ATI agrees with this suggestion in part, but notes that there are some complications that would prevent immediate action on this item. First, AIGACAA, which needs to provide field services and credit to its members to maintain its credibility as a cooperative, might not be willing to cede personnel related to those functions to COPROCA. Second, ATI/Bolivia believes that it is advisable to wait until COPROCA has demonstrated its ability to operate the alpaca fiber processing plant and market this product successfully before attempting to commercialize other camelid products such as meat, hides, organic fertilizer, and llama or sheep's wool. ATI/Bolivia does agree that such commercialization is a logical future step for COPROCA and should be pursued as soon as feasible."

I-7/3/1 At the end of the paragraph, add the following sentence. "As an executing agency for the UNDP/UNCDF, ATI must implement the project as approved in the plan documents and carrying out financial and performance controls. Redefining the roles of COPROCA and AIGACAA may be possible, but would require UN approval."

I-8/items a - d ATI agrees with these recommendations and has already taken steps to ensure the continued institutional strengthening needed by AIGACAA and COPROCA within the existing project budget and is also seeking additional funds for this purpose.

I-8/8/1 After "These ideas were presented to USAID as a possible involvement in the Altiplano [sic] program ... make loans)" add "The project has followed up on the evaluators' suggestions for possible USAID/Bolivia involvement. USAID/Bolivia has expressed an interest in assisting through the P.L. 480 program, but the assistance will be directed toward field extension programs in other alpaca-producing areas and alpaca repopulation efforts."

I-9/5 Before "Are the Peruvians bidding up the price ... to break the Bolivian business?" add "While the feasibility studies for the project analyzed the effects of market competition, constant vigilance is necessary to monitor changing market conditions and ensure a continued reasonable profit for the farmers and COPROCA without excessive risk. The project has considered various options to increase market

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access and minimize risk, taking into account market as well as producer preferences. So far, the project has done well in this regard; however, new problems can always arise."

I-11/item g After "for share purchase" add a new paragraph, "ATI welcomed these suggestions in items 8a to 8g and has passed them on to INBURSA, the consulting firm presently engaged in an in-depth assessment of alternatives on how COPROCA could be capitalized and structured."

I-11/item 9/1-3 After "There is a need for good member relations and outreach ... representational activities" add "AIGACAA expends a great deal of effort on member relations within its budget constraints and does a good job in this regard. AIGACAA is always looking for more resources to expand its member relations activities."

I-11/item 12/last After "substantial preferred shares" add "ATI/Bolivia has passed along this recommendation to INBURSA for further analysis."

I-12/-/7 After "minimum price to non-members" add "The project will consider new arrangements for charging members and nonmembers for services within the context of what is acceptable in the Aymara culture."

I-12/item 14/last Add "AIGACAA has increasingly become an open organization, but is also sensitive to stepping on the toes of other local organizations. In 1994, AIGACAA's annual assembly passed a resolution making it easier for new members to join."

I-12/item 16/1-3 Replace "What is the point of buying animals from neighboring farmers? ... The animals should be brought from outside" with "AIGACAA should continue to bring in animals from outside ..."

I-13/item 19 The project is certainly willing to apply this suggestion of seeking assistance from VOCA.

I-14/last/last Add "The project is now considering the interest rate issue further."

Annex II

The evaluators' main criticisms of the Senegal program relate to the sustainability of commercialization given the subsidies that they perceive to be vital for continued sale of stoves and pumps. Front-end investments must be made in the start-up of any development program, but ATI disagrees with the assertion that in either of these cases subsidies need to be provided indefinitely for the private sector to continue production and sales. The front-end investments that have been made to

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date are amply justified by the substantially greater value of the economic benefits that have already occurred as a result.

A comparison of ATI's program with that of other development organizations in Senegal (governmental or nongovernmental) would show that ATI's strategies, which are based on working directly with small-scale manufacturers, involve fewer subsidies than other programs. Moreover, ATI/Senegal's strategies have allowed subsidies to be gradually reduced over time even as the rate of product sales has increased. The manufacturers and vendors themselves have already taken over responsibility for activities ATI had performed in the beginning.

The evaluators heavily based their conclusions on the project's *average* cost per tool sold (including the *sunk costs* already incurred). This indicator does not show how the project's *marginal* costs per unit have declined over time and continue to fall as sales increase and project costs fall. Furthermore, the benefit/cost ratios, which the evaluators report but do not seem to weigh as heavily (even though these numbers are very favorable), are a much more important indicator because they reflect the net gain from ATI's activities in LDCs.

II-1/2/8-9 The evaluators state that the pump and stove "are sought-after items" now. This fact reflects well on the success of ATI's past promotional efforts and implies that ATI will be able to phase down promotional expenditures in the near future without adversely affecting the manufacturers.

II-2/4/1-5 Delete "If a private individual entrepreneur ... small stove." Entrepreneurs entering these businesses rarely need to cover sunk R&D costs.

II-3/4/2-3 Delete "they had never heard ... team." CECI is not a collaborator on this project; this observation is irrelevant.

II-3/4/4 The use of quotation marks around the word "replacement" demeans and belittles Ibrahima Diaby.

II-3/5/4-5 "This frank appraisal seemed consistent with Diaby's ILO background." This statement suggests an inappropriate bias on the part of the evaluators.

II-5/4/4 "ATI/Senegal appears still very far from a hard hitting marketing effort." The bottleneck with stoves is in production, not manufacturing. In order to meet the strong and growing demand for stoves, project staff is working on further design changes and additional simple tooling to increase labor productivity, and continuing to train manufacturers. The productivity of the pump manufacturers has not been a problem.

The evaluators are correct in placing a high degree of importance on marketing strategies. ATI's proposal to the PVO Co-Financing Project requested funding for an

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expatriate marketing coordinator, but the Co-Financing Project did not agree to fund that position. ATI/Senegal is constantly looking for better methods of marketing. For example, pump manufacturers not already doing so are being further encouraged to work more with established agricultural input sellers. The project has helped establish linkages with many different outlets for the stoves: retailers of the traditional Malgache stove, women's groups, SONADIS (a parastatal chain of retail outlets), and the manufacturers themselves.

II-6/3/7-8 "The stove manufacturers seemed like the smallest, poorest artisans in their neighborhoods... etc." This statement and others in the same section imply disapproval of ATI's work with very poor producers in Senegal based on the physical appearance of the producers and their shops.

II-8/3/1-2 "Misery seeks company is an old cliche [sic] that may be applied to NGO/PVO circles." The statement suggest a bias against NGOs.

II-10/1/11-16 ATI finds the sarcasm used and superficial judgments reflected in the descriptions of metalworking shops in Senegal to be unprofessional and inappropriate -- and would add that such judgments appear to have led to incorrect conclusions.

II-18/3/1 "ATI has quaintly termed 'food processing technology'..." This statement trivializes the arduous labor, performed mostly by women, that is required to hand-pound grain, as well as ATI's efforts to make the task easier.

II-19/last/1 and 3 "ATI/Senegal has apparently made several prototypes of hand operated wind generating machines..." The word "apparently" is used here and two more times in the same paragraph to describe things that have happened. The word is seemingly used to cast doubt on factual matters and is inappropriate.

II-22/last/9-13 "We ... furthermore question whether this type of technology focusing on the poorer segments of society and potential margins from manufacture and sales will be sufficiently attractive to for-profit entrepreneurs capable of exploiting it." The evaluation draft seems to write off the desirability and feasibility of providing any assistance to low-income people; ATI would assert that few development professionals would agree with this view on either equity or efficiency grounds.

Annex III

This section of the report contains many factual errors. It does not recognize the historic evolution of the Zimbabwe project, including ATI's recent development of more commercial strategies. In addition, standard principles of cost-benefit analysis in measuring impacts are not followed.

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ATI agrees with the evaluators' recommendations regarding the need for a more commercial approval and decentralization; the organization was, in fact, implementing those types of changes prior to the evaluation. Given the context of African agriculture and agro-industries, ZOPP and VOPP are very good projects. They have provided a good basis to launch a strategy aimed at commercial production.

III-3/1/3 In the case of ZOPP, ATI acknowledges that there has been a degree of remote control management by ATI due to the problems with the first two project directors.

It should be noted that ATI has organized the Regional OILS program team as a creative way of keeping costs low, while providing high-quality support to projects of ATI and other organizations. Messrs. Protzen and Macpherson are highly skilled expatriates based in Africa. Messrs. Bielenberg and Herz, who live in Vermont, are vital because of their unique experience in small-scale oilseed processing. The assistance of Mr. Tony Swetman of the Natural Resources Institute (NRI) in the United Kingdom is co-financed by ATI and NRI. These uniquely qualified individuals work together with a team of experienced Africans including Dallas Granima, Vukile Mlambo, and Livinus Manyanga who are providing services in their own and other African countries. This team supports and trains local staff, and as such builds local capacity, including South-to-South sharing of expertise.

III-3/2/4-5 Regarding the overseas management of ATI projects, part of ATI's effort to build national capacity is to hire host-country nationals, who in turn require considerable support from both headquarters and OILS regional staff. Field staff develop work plans and other elements of implementation under ATI/OILS guidance -- a normal and largely successful means of supervising ATI's projects for which we assume responsibility vis-a-vis donors.

The historical context of the project is important in understanding ATI's efforts at building local capacity. Under the period of the Cooperative Agreement, the activity began as a WUSC pilot, then evolved into a joint WUSC/AN/ATI effort, and it is still evolving towards a more self-reliant, national entity. ATI's continuing oversight and accelerated level of inputs thorough OILS have turned this into a more productive, technically sound project.

III-3/5/1-2 Delete "ZOPP has been criticized by... international NGO's [sic] for selling presses to the poor with business interests." Add "ZOPP has relied on a commercial approach to manufacturing of ram presses by private firms, but has subsidized promotion and distribution of the technology. While some local and international NGOs have criticized the project for making the poor pay more than the wholesale cost of the presses, this is actually evidence that ATI has adopted a much more private sector approach with fewer subsidies than the bulk of the NGOs operating in the country."

III-5/3/4 "... it will ostensibly provide additional oil for support." The Evaluation Team's decision to preface a logical conclusion with the word "ostensibly" appear intended to diminish the impact of a statement which reflects well on ATI's activities.

III-8/2/11-14 The evaluators are correct that ATI has "to shop the project around to different donors for different pieces of action." This is a reality that most international and local NGOs face. A logical implication of this observation is that ATI needs leveraging funds to influence other donors' development strategies.

III-9/2/6-7 The evaluation draft criticizes ATI for "fulfilling the proactive project implementation role ... [rather than building] indigenous institutions." The statement is inconsistent with statements in other places in the document where ATI is criticized for not setting up a national program office headed by an expatriate.

III-11/2/4-8 Delete "If ATI is to play out its rhetoric, it should be intervening at several points along this 'value added chain'... etc." This statement provides another example of inappropriate sarcasm. Elsewhere, the Evaluation Team criticizes ATI for not exiting so the private sector can take over. Here, when ATI has done so, the team criticizes ATI for no longer intervening in all aspects of the value chain. Add " ZOPP has implemented multiple interventions along this value-added chain and while it is still involved in some aspects of this, it has exited from others such as seed sales."

Annex IV

The Evaluation Team only spent two of the six days called for in their Terms of Reference examining the Nepal programs. When the evaluation team met with ATI's Asia team in Washington, they spent very little time (less than a half an hour) learning and asking about the entire Asia portfolio. Several hours were spent with the Asia team, but questions were mostly on administrative issues since a later meeting was supposed to take place on Asia programs. The second scheduled meeting started late and the Evaluation Team had to leave early as they were departing for Africa that day. Perhaps this sequence of events explains the many errors and misconceptions in this section of their report, both institutional and technical.

The description of the EPARD Project, its origins, and how ATI became involved are misrepresented in the report. While the evaluators spoke with one person at UNDP/Kathmandu who was only vaguely familiar with the project, the list of contacts shows no one from ADBN.

The discussion of the potato project is sketchy and lacks balance in its reporting of key issues such as the controversy over the variety selected and the scale of enterprise assisted.

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IV-1/1/3 After "cash crop" add "and is a major crop for subsistence farmers in Nepal."

IV-1/4/1 Since the average yield of potatoes in Nepal is around 8.5 tonnes/hectare, the cost of the planting material for this crop is very high both as a percentage of the proceeds from the harvest and as a share of total production costs. One of the reasons for the low yield is the prevalence of diseases spread through the planting tubers. Due to the shortage of potato planting stock in Nepal, a large proportion of the planted tubers are actually ware potatoes imported from India.

IV-1/5/last After "sand-rooting efforts" add "While this sand-rooting technique had been technically proven, it had never been commercially applied by farmers in Nepal or any other country. One of the most common problems faced in promoting agricultural biotechnologies in general is the lack of care in applying such technologies; and ATI was determined to avoid those problems. Therefore, ANSAB began field testing and training on a limited scale, rather than attempting to prematurely commercialize this technology on a wide scale. Farmers needed training in sand-rooting of the microshoots and use of the resulting miniseed tubers in ware potato production. Total expenditures for the initial stage of the Nepal Potato Producers Project to date has been just $95 thousand."

IV-2/2/3 Dr. Pradhan's previous connections with NHPL facilitated her reaching an agreement with them for transferring the technology they had developed in potato tissue culture (with payment of a 5% royalty on sales). It was Botanical Enterprises that sought assistance from New Era in commercializing the new potato technology. Later, the company added tissue culture production of aquatic plants and conventional nursery production of ornamental garden plants to its product lines and these now constitute the bulk of its business.

IV-2/last/last After "EPARD" add "ATI was not initially involved in this project". After "objective" add "of the ADBN's project with UNDP".

IV-3/1/7-8 Replace "and then provide business planning and management technical assistance" with "and provide training to six ADBN staff and 1 UNDP representative in alternative financial mechanisms besides loans, practices of venture capital project implementation, business plan preparation and analysis of both new and existing enterprises, identification of entrepreneurs, risk assessment, and design of exit mechanisms from equity investments. ATI subsequently provided follow up technical assistance throughout the project. The cost of the training and technical assistance component was $102,000."

IV-3/item c Note that the Evaluation Team either did not report on any interviews associated with this effort and/or failed to note them in the report. During the Asia Team's meeting with the evaluators, Peter Fraser indicated that he had interviewed

Hank Cauley (BCN Director) and that Mr. Cauley had said positive things about ATI, yet there is no mention of this.

IV-4/2/heading Replace "Financing ATI's Pilot Projects -- Getting a Sense of the Levels of Subsidization" with "Financing ATI's Nepal Activities."

IV-4/2/2-4 "ANSAB, while a Nepali organization is, as is so frequently the case in ATI's 'partnerships', a very ATI centered and controlled program at this stage." Again, the use of quotation marks around the word "partnerships" seems to be inappropriate sarcasm.

IV-4/4/2-3 Add "Partners in ANSAB's field projects include private sector businesses such as Botanical Enterprises Pvt. Ltd. in the Nepal Potato Producers Project, the Eurasia Corp. in the Indonesian Kapok Tissue Culture Producers Project, and the Hindustan Biofertilizers Pvt. Ltd. and the Biotech Consortium of India Pvt. Ltd in the Rhizobium project. ANSAB is very clear about its private sector orientation and all of its activities and written materials articulate this orientation.

IV-4/6/5-7 Delete "One private lab owner... a commercially viable operation." This is an undocumented statement.

IV-6/1/2 After "so far" add "after just 15 months".

IV-7/1/4 "the AEC seems to view its clientele as the business oriented entrepreneur/trader - a more sophisticated level than the small, village-level dirt farmer." The term "dirt farmer" as used here by the Evaluation team is highly inappropriate.

IV-8/2/9-10 ATI agrees with the statement that "subsidies eventually need to be eliminated."

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ANNEX III

ATI Board of Trustees

William Drayton, Chair.
ATI's Chair since 1989, William Drayton is President of Ashoka: Innovators for the Public. A MacArthur Fellow, he taught at Harvard and Stanford and was a management consultant with McKinsey and Company. Drayton is a former Assistant Administrator of the U.S. Environmental Protection Agency.

Hon. Thomas J. Downey.
Thomas Downey, a former U.S. Representative from New York for 18 years, is President of Thomas J. Downey & Associates, a public affairs consulting firm based in Washington D.C.

Hazel Henderson.
Hazel Henderson lectures and consults on economics and alternative development strategies in the U.S. and abroad. Her articles have appeared in over 300 U.S. and international journals and she is the author of several books including *Paradigms in Progress.*

Sandra Mostafa Kabir.
Sandra Kabir is the Executive Director of the Bangladesh Women's Health Coalition which she founded in 1980. Currently in Tunisia on a leave of absence, Kabir also serves as Director of the International Secretariat of El Taller.

Michael Phillips.
Michael Phillips is a business consultant, radio show host, author, and founder of the Briarpatch Network of over 700 small businesses. A former Vice President of the Bank of California, Phillips was a key organizer of the Mastercharge credit card system.

Hon. Emil Salim.
Emil Salim recently served as Minister for Population and the Environment in Indonesia. He is a leading spokesperson for developing countries on matters concerning international development and environmental conservation.

ATI Advisory Council

Hon. Ela Bhatt.
Ela Bhatt is currently Chair of Women's World Banking. She founded the Self-Employed Women's Association of India in 1972 and served in the Indian Parliament.

Hon. Paul Bomani.
Paul Bomani, a former Finance Minister and central bank Director in Tanzania, has held a variety of ministerial portfolios during the past twenty years. Bomani was Tanzania's Ambassador to the United States and presently serves as Presidential advisor.

Hon. David E. Bonior.
David E. Bonior is Majority Whip of the U.S. House of Representatives where he has represented Michigan's 10th District since 1977. He is an outspoken advocate of humanitarian foreign assistance and global environmental conservation.

Hon. Margaret Catley - Carlson.
Margaret Catley - Carlson is President of the Population Council, applying science and technology to population problems in developing countries. She has served as Deputy Minister of Health and Welfare in Canada and as President of the Canadian International Development Agency.

Richard Cavanagh.
Richard Cavanagh is Executive Dean of Harvard University's Kennedy School of Government. A widely-quoted authority on business management, Cavanaugh's teaching and research focuses on public policy, entrepreneurship, and international competitiveness.

Peggy Dulany.
Peggy Dulany is President of the Synergos Institute which she founded in 1986. She served as Senior Vice President for Education and Youth Employment at the New York City Partnership and has consulted on women's health issues in the U.S., Portugal, and Brazil.

Edgar C. Harrell.
After holding senior posts with the U.S. State Department and the Agency for International Development, Edgar Harrell served as President of International Technology Management & Finance. Formerly a manager at Dupont, he most recently became Operations Director of the International Privatization Group at Price Waterhouse.

Edward J. Hoff.
Edward Hoff is faculty partner of the Center for Executive Development and President of the Strategic Horizons Group. Previously, while a professor at the Harvard Business School, he designed the program that first incorporated the personal computer into Harvard's MBA curriculum.

W. David Hopper.
An agricultural economist, W. David Hopper served as President of Canada's International Development Research Center and Senior Vice President of the World Bank. He is now Senior Vice President of Haldor Topsoe, Inc., an international energy and environmental technology company.

Saburo Kawai.
Saburo Kawai is Chairman of the International Development Center of Japan and Senior Managing Director of Kezai Doyukai, one of Japan's largest associations of corporate executives. Kawai also serves as President of the Sasakawa Peace Foundation.

M. Peter McPherson.
M. Peter McPherson is currently President of Michigan State University. Formerly, he served as Administrator of the Agency for International Development, Deputy Secretary of U.S. Treasury Department, and Executive Vice President of the Bank of America.

Esther Ocloo.
The first indigenous Ghanian to start a food processing industry, Esther Ocloo has 50 years training women and low-income people to produce and process agricultural commodities. She was a founder and the first Chair of Women's World Banking.

Hon. Claudine Schneider.
Claudine Schneider is President of the Artemis Project, a research initiative assessing the economic and scientific value of biological diversity resources in the U.S. A former U.S. Representative from Rhode Island, she championed, economic growth incentives that emphasized environmental quality during her ten years of service.

Hon. Motoo Shiina.
Motoo Shiina is an elected Member of the House of Councillors, the Upper House of Japan's Legislature. Formerly a Member of the Diet, Shiina has been a leader in the Liberal Democratic Party on matters of national security, foreign affairs, and science and technology.

Saburo Yuzawa.
Saburo Yuzawa is a senior official of Japan's External Trade Organization (JETRO) associated with the Ministry of Foreign Affairs and the Ministry of International Trade and Industry. Previously, Yuzawa headed JETRO's U.S. operations on the west coast, headquartered in Los Angeles. He the author of a book on overseas development assistance.