Mid-term Evaluation

of the

Cooperative Agreement (ATI-III)

between

Appropriate Technology International

and the

U.S. Agency for International Development

USAID Contract No. PDC-1406-I-00-032-00

Delivery Order No. 18

Winrock International Institute for Agricultural Development

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Assessment Team:

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Winrock International Institute for Agricultural Development

Winrock International was asked by AID to assemble a team of four persons to review progress under its cooperative agreement with ATI and to suggest appropriate changes in that agreement. In addition, the team was asked to derive pertinent conclusions and recommendations which might contribute to furthering ATI's mandate.

The level of effort (USAID Contract No. PDC-1406-I-00-032-00, Delivery Order No. 18) included 120 person/days total for the four evaluators, interviews in Washington and by telephone and visits in two person teams to four countries: Guatemala, Bolivia, Tanzania and Senegal.

Assessment team:

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1. EXECUTIVE SUMMARY.

Appropriate Technology International (ATI) was conceived inside the Agency for International Development (AID) with ideas and encouragement from the Congress and the broader development community. It was intended to be an experimental agent of U.S. development assistance to developing countries. ATI was to play a complementary role to AID as well as be a source of learning for it. It was designed to be enterprise oriented, opportunity responsive, flexible, entrepreneurial and timely. It would target populations most difficult for government bureaucracies to reach and use a modus operandi least characteristic of such organizations. ATI has remained loyal to this vision through the years and has earned respect and appreciation among those who have been closest to its work in the field. More importantly, it is emerging from an intense period of transformation from a grant-making institution to a facilitator and provider of strategic assistance. Over the past 15 years, it has had an average annual budget of $4 million in AID funds, with changing degrees of flexibility in the use of these funds. Recent successes in diversifying project funding have resulted in a five fold increase in non-AID funding. Since 1990, ATI projects have received support from 16 sources, including 5 AID Missions (Attachment 2).

While the goals of ATI have changed little during this period; its objectives, methods, staff, and vocabulary have been constantly evolving. Recent focus on larger groups of beneficiaries and its newly articulated subsector approach are impressive and enhance ATI's comparative advantage. That advantage is based on its widely recognized technical competence in selected hard technologies, analytical skills, its ability to introduce new technologies, and its complementary soft technology concerns such as credit, business planning and marketing.

ATI has a solid place in the spectrum of international development institutions and has made significant improvements in the last three years in focusing its program, influencing other development institutions, and increasing the potential of its projects for significant impact on small scale producers in developing countries. Nevertheless, its mandate requires it to perform even better and to involve a broader audience in its learning, in order to attain its potential influence on development theory and practice. Although ATI is well underway to meeting agreed upon targets for the program activities of its field programs and local partners overseas, it is behind schedule in generating income to cover the indirect costs of core operations.

The four consultants involved in this assessment brought four different disciplines to this restricted effort. There were not resources to permit them to work as a team in their limited investigations. However, a high degree of consensus is evident in the individually authored sections which follow about ATI's current situation, the Cooperative Agreement under which it operates and the administration of the relationship.

These sections imply a wide variety of findings:

- ATI's mission is highly relevant and its strategies are significant, effectively pursued and have a high potential for impact on greatly increased numbers of beneficiaries. This view was amply supported by USAID missions, other donors, local partners, and beneficiaries in the four countries visited during this assessment.

- The cooperative agreement, ATI-III, is increasingly irrelevant to ATI's rapidly evolving significance. It needs to be totally rewritten to define terms, reconcile inconsistencies, recognize the legitimacy of current categories of leveraging funds from other donors, substitute realistic funding targets in these leveraging categories, establish more relevant indicators, and initiate new methods for facilitating sustainability and diversified funding.

- With respect to the administration of this CA, the consultants suggest that AID should accept ATI as a complement to AID rather than exclusively as an agent of AID's changing agendas. This implies that ATI should be funded from off the top of the AID budget rather than from the budget of only one bureau with its own priorities and evaluative criteria. It also implies that ATI should be viewed and utilized as an opportunity for flexible and innovative activities leading to mutual learning from experimentation. This in turn suggests institutionalizing a collaborative relationship between the leaders of the two organizations.

- There is within ATI a tendency to undervalue its significant contributions and the alternative styles which it manifests. For example, the feedback loops from its own experience in implementing projects through adaptive, iterative, processes are not well incorporated in its own literature. Also there is less involvement of other organizations in its analytical and planning activities than those organizations might desire. Few research institutions have the grassroots experience of ATI and could benefit from more involvement while complementing ATI's skills. Another example is that ATI's own capability statements focus on the primary producers while, in fact, a major contribution is also being made by its innovative work with intermediary producers of equipment to be used by the primary producers.

- The enthusiasm of ATI staff for the changes and improvements of operations under ATI-III led the consultants to focus on areas in which additional improvements might be considered. These include: moving to an overall management system which would better support the direction the organization is headed by integrating reporting, monitoring, and evaluating activities; continuing improvements in budgeting procedures; improving reporting and monitoring of time allocation of all staff members in order to better communicate costs of operations and to make management tradeoffs; strengthening field/central office integration and mutual learning, and increasing field presence as resources permit.

- This report recognizes this importance of on-going government funding as part of ATI's income. It further suggests the need for greatly increased resources devoted to the agenda which ATI consistently addresses in evolving and improving ways. The two important aspects of this agenda are equality with efficiency and sustainable livelihoods. The forms which government assistance might take are also referenced.

- The urgency of ATI positioning itself to be proportionally less dependent on annual appropriations is emphasized at various points in this report. Other suggestions include allowing ATI to be an "investor" capable of earning a return on some of its activities, and to open its own credit facility in support of its local partners and in order to recover some of its capital needs.

- Additional collaboration with other development organizations may have particular usefulness in expanding policy and environmental analysis in project development. It may also open new revenue sources. Having time for this may require narrowing ATI's focus among subsectors, within a program, or geographically.

- ATI has shown an awareness of the changes needed in personal and corporate operating styles as project activities move from ATI-II like demonstration projects to country-wide and regional programs. Making this happen will be challenging during the transition period covered by ATI-III and beyond.

- Local capacity building remains a central requirement of any development activity and ATI has new opportunities to bring local organizations along with them in their subsector approach. This observation will reverse the guidance provided by the 1982 AID evaluation to move away from local capacity building and emphasize commercialization of technologies through enterprise development. ATI's success with indirect funding and instrumental leveraging reflects its continued concern about local capacity building even if it was deemphasized during ATI-II.

2. BACKGROUND OF ATI AND THIS ASSESSMENT.

ATI was created pursuant to a 1975 congressional directive which added appropriate technology as an element of the 'new directions' mandate. ATI's evolution since then is a worthy subject for a separate reflective assessment and beyond the scope of this report. Such an in-depth assessment might begin with a survey of the changing trends of international development theory and practice for the past 15 years. Although ATI's original purpose has remained primarily the development and spread of technologies appropriate for low income producers and entrepreneurs, its approaches have been reformulated to accommodate these changing development trends. This evolution also reflects ATI's own learning process, the pressures on it by sometimes combative boards of directors, Congressional interests, and the

constantly shifting personnel, politics and organizational structures of AID, through which ATI funding from Congress has been filtered.

A 15 year survey of ATI's internal operations would reveal both creativity and mistakes, and also the clash of ideologies and personal styles frequently found in most organizations. The greater degree of internal conflict in ATI's case prior to 1989 as opposed to today, perhaps resulted from the intensity of the outside pressure, second guessing, previous deficits in leadership, and the high number of passionate individuals drawn to this vocational arena. Today ATI should be very proud of the cohesion and positive working environment which has been recently created.

ATI's history is inseparable from the history of the non-governmental, community based, and intermediary organizations with whom it has worked as funder and partner. Such organizations have remained central to ATI operations throughout its life and will continue to do so in the future. This is possible because indigenous development organizations (often with ATI's help) have been started, strengthened or changed to meet the problems and opportunities presented by local circumstances and resource availability. Thanks in part to past ATI efforts, these organizations are now working with international non-governmental organizations (NGOs), multilateral and bilateral funders.

Another chapter of the ATI story would focus on the changing programmatic emphasis as discussed in the publications and reports of successive ATI communications offices and program documents submitted for funding. Subchapters might focus on differences in program emphasis and activities between the geographic regions and among countries within the regions. For an organization emphasizing appropriateness and bottom-up development, such differences are real and necessary though they are sometimes viewed as inconsistencies by outside observers or development theorists looking for universal formulas and 'correct' models.

2.1. ATI-I, 1978-1983.

The first ATI support was a $1 million planning grant in January of 1977, and operations did not get underway until late the following year. It was not fully staffed in Asia, Africa and Latin America/Caribbean until the end of 1979. At that time, appropriate technology in the third world was largely the captive of engineering departments at technical universities or appropriate technology centers. Few organizations existed to move the technologies from the laboratory to the field. Fewer still were oriented from the perspective of the village reaching up to the laboratory to bring back to the village what was relevant and wanted. Indigenous NGOs working in development were largely inexperienced and were often suspiciously regarded by governments if not actually illegal. ATI's first operational grant (ATI-I) was for August 31, 1978 to September 30, 1983. ATI believed their initial task to be the strengthening and legitimizing of local organizations which could increase the access of the poor to technologies (both hardware and software such as credit, know-how and

marketing opportunities). This lead to the creation in each country of a functioning and interlinked system of institutions which together would provide that access. Its approach was to strengthen the local institutions so that there was a local source of hard technology, research and development, outreach, dissemination and commercialization, credit and business training, and policy reform and advocacy.

ATI made single purpose and multipurpose grants to many institutions in many countries. These grants were designed to remove obstacles to the ability of the local group to progress toward its goals. In context, each grant made sense to ATI which saw the purpose as a building block or piece of the puzzle forming part of a functioning appropriate technology system in the country. To some in AID, on ATI's board, and in the broader development community, the sum total of ATI's program under ATI-I was a cacophony of unrelated activities, rather than a 'puzzle-in-progress' with different pictures in each country as seen from ATI's perspective.

2.2. ATI-II, 1983-1989.

The second phase of ATI's activity focused less on institutions and more on a limited number of specified technologies to be demonstrated as field projects. Attention was directed to policy issues related to increasing access of the target groups to needed components of their own development initiatives. ATI's second grant was the first Cooperative Agreement with AID (ATI-II). It funded at roughly the same $4 million annual level as the first grant (ATI-I) from September 30, 1983, to September 30, 1989. Funds were used for core support, financial assistance, and leveraging funds from other donors to complement ATI's own grants. Commercialization of technologies was incorporated as a major program theme. Although ATI had a relatively stable dollar amount of annual funding, inflation was eating away at the effective budget over this period.

2.3. ATI-III, 1989-1994.

The current funding arrangement between ATI and AID is the second Cooperative Agreement and is referred to as ATI-III, covering September 30, 1989, to September 29, 1994, at a reduced funding of $3 million per year. Its main purpose is, "to further strengthen ATI's capacity to demonstrate the beneficial impact, utility, and cost-effectiveness of development strategies employing commercially viable and economically sustainable appropriate technologies through projects funded by AID and other donors."[1] It emphasizes "the wider adoption of these development strategies by governments and policy makers through diffusion and replication of the results/findings of demonstration projects aimed at small enterprises." The motivation behind the agreement was to encourage ATI to become proportionally less dependent on AID funding , to diversify its funding sources, and to expand

[1]ATI-III Cooperative Agreement, p. 1

operations through cost recovery. AID has traditionally urged other organizations that it funds to follow a similar path. ATI-III permitted the use of AID funds to leverage other donor funds while changing ATI from a grant-making organization to a facilitatory and technical assistance organization. An additional $1 million was sought by ATI for 1991 and 1993 for leveraging purposes. This has been provided under a separate cooperative agreement in accordance with congressional directives.

2.4. ATI-III ASSESSMENT.

In this third year of the Cooperative Agreement (ATI-III) it is time for a mid-course review of ATI and this agreement to see if changes in both are called for in service of their purposes. The review process and results are reported in this document. As to whether or not changes are called for: the simple answer is "yes"...changes are desirable in ATI, in the CA document, and in its administration. Most of these changes are already in progress and will be welcomed by both parties.

Before proceeding to the substantive issues of the mid-term assessment, two additional introductory subjects are appropriate. The first concerns the climate in which the ATI/AID relationship has existed. The second is an explanation of the methodology, mechanics and climate of this mid-term assessment.

2.5. CLIMATE.

It was a surprise to many people interviewed during this assessment that ATI was not just another private voluntary organization (PVO) which had won several AID funded project contracts and had its own unrestricted funds. ATI's congressional mandate, reiterated over the years, or its conception and incubation within AID itself, are not common knowledge among AID officials, other funders and the PVO/NGO community. Earlier in ATI's history there were complaints about ATI's insularity in the development assistance community and their reputation suffered as a result. More recently, extensive collaboration has been achieved (e.g., attachment 2 on collaborating institutions in Asia).

The early days of ATI established a tone which even well intentioned managers in ATI and AID have found difficult to surmount over the years. Initially ATI felt it desirable to distance itself from AID, even to hide the connection, because of the political nature of many of the NGOs with whom it was working, this was true particularly in Latin America. At the same time even non-political local NGOs were struggling to achieve recognition as being different from the unsatisfactory development initiatives which had characterized government intervention in many countries. For these reasons, ATI rarely acknowledged its government connection. Within AID, ATI has sometimes been resented for this reason and because of different operating styles, differences in program flexibility and competition for funds.

While past ATI/AID relationships are not the subject of this mid-term assessment, this history affects the way in which this assessment will be read by individuals in both institutions. Attempts to cut off ATI funds, unsatisfactory personal relationships, and inadequate communication, are facts of institutional history. They affect the climate in which recent efforts at collegiality must operate.

At the time of the planning grant in 1977, a conference retreat was held under AID auspices to prepare suggestions on ATI goals, objectives and methods of operation. Included in this group were a number of AID officials, congressional staff, respected members of the PVO community and others. Their statement was a collection of the most progressive thinking of the day about grassroots development or development 'as though people mattered' and remains just as relevant in 1992. However, this statement raised the expectations of everyone with a complaint about development practice or ideas about its improvement. The report of that meeting urged ATI to pioneer, develop new approaches, use innovative management, lead the rest of the development community into new practices, involve the private sector, change policy, instruct values and be technical 'wizards.'

This 'all things to all people syndrome' continues to affect ATI under this current CA. ATI must perform a wide array of time consuming tasks among which are closing out 80% of its previous projects and reconstituting itself in a new form along with project, technology and systems development. Even when it makes progress on all these fronts there will be outside critics with different ideas about priorities, focus, and methods.

2.6. MID-TERM ASSESSMENT PROCESS FOR ATI-III.

The four reviewers were determined that the *process* of this assessment should itself be useful to all the parties involved; AID and its missions, ATI and its operating partners, field offices and other collaborators. The result of positive attitudes by all parties has been an unusually collegial assessment process in which AID has been represented in many of our discussions with congressional staff and with ATI in Washington and in the field. ATI has been represented in meetings with USAID Missions and other donors; and both AID and ATI have participated in interviews with local partners and beneficiaries. There have been two party as well as multiparty meetings, but "togetherness" has been the dominant theme. The Scope of Work[2] for this mid-term assessment was a joint product and reflects concerns of many different people in both ATI and AID. The desire to improve communication and to address the frustrations felt by both sides points to an increasingly productive future.

The Scope of Work for this brief effort contained questions which should be more fully explored in the full evaluation scheduled at the end of ATI-III. Additional concerns arose during debriefing sessions with ATI and AID personnel at the end of this assessment. Among the subjects for supplemental consideration would be: comparative studies of ATI

[2]See Attachment 1.

and other development organizations particularly on the subject of cost effectiveness, case studies of more projects, and analysis of strategies articulated in the forthcoming workplan for 1993. It is unfortunate that there were not sufficient resources to permit the complementary skills of the team to be deployed together in each of the project countries or to support a more realistic time frame for covering all the concerns implied by the Scope of Work. We are particularly aware of our failure to address the ATI Asia program, especially because it may in some ways suggest trends for the future of the African and Latin American programs. One consultant did take advantage of a separate consultancy in Indonesia to inquire about ATI involvements. Similarly, we were unable to explore future funding opportunities from multilateral and bilateral agencies and the range of options which might facilitate continual or expanded core funding from the U.S. government for this important development thrust.

2.7. FIELD VISITS BY ASSESSMENT TEAM.

Field visits were assigned by the Scope of Work to Guatemala, Bolivia, Tanzania, and Senegal. Only one of the authors of this assessment visited all four countries; two each visited two-countries, and one did not travel. The projects in these selected countries are representative of the direction ATI is moving and demonstrates their subsector approach. It would have been very useful to visit Asian projects concerned with developing environmentally sound enterprises and the work supported by the U.S. Environmental Protection Agency. One member of the team, visiting Indonesia and the Philippines for other projects, made an attempt to inquire about some of ATI's activities in those Asian countries. Biotechnology related projects, particularly the institutionalization, and ATI's venture capital work would have been important additions to the learning of the consultants, and the comprehensiveness of this assessment exercise.

2.7.1. Guatemala.

The Guatemalan wool project grows out of previous work with weavers seeking improved dyes, technologies and designs. It has evolved into multiple interventions in conjunction with a sophisticated business oriented local partner, FUNDAP. Included in this project are activities promoting: improved pasture, portable corrals, genetic improvements in sheep, better fiber harvesting, quality processing, and improved marketing. The five year partnership with FUNDAP is typical of ATI relationships in the past and is of great value to both partners. Of the 24 funding organizations which have contributed to FUNDAP activities, ATI is held in highest regard by FUNDAP management and staff. They attribute this to ATI's fraternal style, its programmatic flexibility, its ability to meet the expanding technical needs of FUNDAP, and its effectiveness as a "window on America," for FUNDAP in search of a variety of resources from other organizations and institutions. FUNDAP hopes ATI will develop a credit mechanism to aid them in expanding small producer credit programs. In addition, FUNDAP wants ATI help to strengthen its capacity to assist organizations in other countries using their business based approach.

The Guatemalan USAID Mission is well aware of ATI and is acquainted with regional staff, though not directly involved in current projects. Mission personnel have recommended to other organizations working in Guatemala that ATI is a technically competent potential collaborator.

2.7.2. Bolivia.

The Bolivian alpaca project is based on ATI's experience in Guatemala with an animal fiber sub-sector. It is funded by UNDP and UNCDF with a 12 percent contribution from ATI which was viewed as essential by the other two funders. The timeliness and flexibility of ATI's funding made the project possible according to UN officials. This contribution was facilitated by AID/Washington's prompt approval of the letter of credit requirement.

This project, which began in January, 1992, includes multiple interventions along the production chain from pasture to market. Progress has been delayed somewhat by the necessity of emergency drought measures to supply water and feed for genetically enhanced "troops" of alpaca. The speed and effectiveness of ATI response to this drought, including the successful introduction of ATI treadle pump technology from Senegal, is an early success story from this operation.

In this project marketing has been a primary concern and internationally known experts are assisting ATI and Asociacion Integral de Ganaderos de Camelidos de los Andes Altos (AIGACAA) in a global market analysis. Local artisans have difficulty marketing their current production, and local fiber producers cannot compete in price with the fiber being "dumped" across the border from Peru. Local manufacturers do not yet make internationally competitive luxury products incorporating alpaca fiber and do not pay world market prices for improved alpaca fiber. This global market analysis, while not yet complete, has uncovered a great demand for improved fiber. The best interests of the small producers are served by marketing that improved fiber internationally, although efforts are being made to make up to 40 percent of production available to local enterprises for improving their product.

The Bolivian project is co-managed by an ATI project manager and his counterpart, the Executive Director of the major national alpaca producers association, AIGACCA. This co-management includes even co-signing of checks. The success of the relationship and the caliber of ATI's representative has been commended by USAID Mission personnel, UN officials, the project partner and beneficiaries.

2.7.3. Tanzania.

The oilseed project in Tanzania is employing an additional model of local organization appropriate to the circumstances. ATI's project manager began the project with funding from Lutheran World Relief, ATI, and PL480 funds from the government of Tanzania. Since that time, ATI financial and technical resources have allowed expansion to its present level. Future activities include a geometric increase in oilseed processing at the village level and

replication in five other African countries under regional buy-in arrangements with USAID. One USAID program officer in Tanzania called the project the most impressive he had seen in his years in Africa in spite of his own initial skepticism. Future changes in operation which will be necessary to accomplish expansion and involvement of other groups are discussed later in this paper.

While a team of extension agents is hired and managed by the ATI project manager, there is a local partner in the form of a parastatal development organization, Small Industries Development Organization (SIDO), which has supplied staff and collaboration for expansion into new geographic areas. A local SIDO affiliated appropriate technology center, which has worked over the years with ATI, now works in oil press improvements and adaptations for processing sesame seeds, coconuts, peanuts, and sunflower seeds.

2.7.4. Senegal.

In Senegal, activity is focused on treadle pump production and fuel efficient charcoal stoves; both of which are marketed by their producers. ATI is also investigating the potential for commercializing other technologies relating to small scale irrigation, agricultural production, and grain processing. ATI's project manager has put together a staff to promote both technologies by assisting producers and the marketing effort. Under a proposal to USAID Senegal for expansion of this program, business and accounting training would be provided by a local NGO with whom ATI shares office space.

This is a USAID/Senegal funded activity, and several mission staff, from the director to project officer, have visited project sites. They have been impressed with the program, but would like to see more aggressive involvement of other marketing organizations and NGOs now that there is high comfort level with the state of this technology. As a result of his past experience in Senegal, the ATI project manager chose private producers rather than a local NGO as partners in this project although USAID urged the contrary. USAID officials now endorse the private producer route while hoping that a mechanism, such as a trade association of producers, can be developed to replace the ATI effort by the time the project finishes. While there is the beginning of a trade association, additional training will be needed for this purpose.

2.8. ATI TODAY.

Today, ATI is active in 12 out of the 21 countries that were involved in ATI-II. Funding now under consideration by other donors may result in activity in additional countries. The work program for 1993 is near completion and it represents a significant change from the past. It will include: business plan development for key sub-sectors with an emphasis on new business development; increased focus on a strategic subsector approach; and much greater clarity about objectives and strategies. Conversion from a grant-making institution has been a long and difficult process and will continue in 1993.

The assessment team has been impressed by ATI's diligence in defining and addressing four critical needs of its target groups: (1) market-driven analysis; (2) interventions that are technically sound and socially, environmentally and commercially appropriate; (3) incorporation of private sector disciplines; and (4) mechanisms for finance. We have suggestions to make principally because we appreciate the value of what is being accomplished.

Finally, it should be noted that in the early 1980s it was estimated that ATI would need a staff of between 70 and 80 people to address its mandate on a significant level. Current staff levels are only half that and the range of tasks has remained the same. Although there have been achievements in focusing the program and expanding staff skills, ATI's potential for impact on development is constrained by inadequate staff numbers.

3. FRAME OF REFERENCE FOR THIS MID-TERM ASSESSMENT

What part of the overall development agenda does ATI serve? It is an important part which overlaps the agendas of many development and assistance organizations, AID included. This can be characterized as predominantly the "equality" side of economic development, where "equality" connotes matters of "fairness" rather than "venture capital." This means activities are designed to help:

- poorer people, communities and countries;
- micro, small or informal producers that are typically discriminated against or neglected by official policies;
- marginal, relatively isolated or disempowered populations or producer groups; or those that are somehow, disadvantageously, disconnected from the larger society or rest-of-world economy; and....
- rural or urban fringe populations and producers—still comprising large majorities in most underdeveloped countries—that need help to make transitions in societies and economies under great stress of changes or structural adjustments, and to maintain or improve their well-being in the process.

"Equality" also has the meaning attached to it in a classic book by Arthur M. Okun, Equality vs. Efficiency: The Big Trade-off. This title posits the great challenge facing ATI, AID and others in the development community: that of achieving equality with efficiency. Is it really possible to use development techniques employed in advanced sectors and developed countries to empower and to benefit the kinds of poor, marginal and isolated groups in underdeveloped areas? Can ATI apply modes of business and economic development (e.g., technology choice, technology transfer, innovation, diffusion of innovations, entrepreneurship, entrepreneurial development strategies, business organization, product development and

commercialization, marketing, enterprising management) in these situations? ATI has demonstrated that it is possible to achieve efficiency and equality by helping small-scale producers increase their productivity without increasing their dependency upon charitable relief.

The brunt of this challenge for ATI is more specifically posited by the terms of ATI-III, which are set forth and assessed in this report. The primary concern is analogous to that for the self-sufficiency of those ATI is trying to help. Can an organization so dedicated become sustainable, without substantial injections of investment resources? Is it necessary or indeed appropriate to become self-sufficient? Both the desirability and the need to do all that is possible to achieve "equality with efficiency" are assumed by this assessment. This is our frame of reference.

4. GOALS AND OBJECTIVES OF ATI

4.1 PRIMARY GOALS.

ATI's primary goals are:

- To promote commercially viable and environmentally sound enterprises and technologies for low-income people in less developed countries.

- To enable farmers, entrepreneurs and other small producers to upgrade their businesses, add value to their products, find wider markets, and increase their productivity and incomes in a sustainable manner.[3]

Essentially similar expressions of intent can be found in previous documents going back to 1977 that emphasize appropriate technologies, technology commercialization, productivity improvement of farmers and small producers, and raising rural incomes. Over the years, ATI has adapted its approaches in response to AID urgings as expressed in cooperative agreements and in response to the needs of those it has been trying to help. Their experience from trying to meet such needs is reflected in an analysis of the lessons learned from the previous cooperative agreement's (ATI-II) projects (Hyman & Sethna, 1992).

The evolution of ATI has been reflected in changes in specific objectives or ways of achieving basic goals. There is now more emphasis on commercialization of available appropriate technologies than on R&D or on experimentation to develop innovative approaches to technological development. This shift has occurred along with a gradually increasing emphasis on enterprise development, and this is not accidental. ATI's long

[3]Capability Statement, October, 1992.

experience working to assist small producers has taught it that technology has many facets and the process of dissemination is neither a spontaneous nor autonomous force. The development and diffusion of technologies are contingent upon many factors, most of which entail enterprise in some form, including such things as the existence of markets, producers, intermediate technologies, able entrepreneurs, and material inputs. From the standpoint of the small producers, technologies are means, not ends—inputs that cost labor time, money, entail some risk, and that may or may not provide increases in productivity, incomes or profits.

ATI's gradual shift in emphasis has been primarily responsible for corollary changes. These include approaches, modes, roles and workplans—even overall strategies. According to ATI, they now operate under a new "paradigm" and use "models" which are "pattern setting approaches" in order to serve as staff to small-scale producers. Unfortunately, it does not appear that there has been time to communicate this self-identification and methodology to the development community or perhaps even to all of those close to daily operations. We recognize that in any organization, there are those who take longer to adapt to changing vocabulary and operational shifts. Because of the recent enormous changes in ATI, this issue calls for special attention to bring all staff members to a similar level of understanding.

The pattern setting claim is arguable and may be overstated. Those that have been previously set forth by ATI internally as "pattern setting contributions" are as follows:

1. Linking small producers to dynamic and expanding markets.

2. Creating cost effective ways and means of delivering technical assistance to small producers.

3. Proving the compatibility of environmental and economic development.

4. Matching a range of technologies with a range of users.

5. Establishing new methods of assets mobilization for small producers.

The problem may be one of semantic confusion. These really are not patterns, though the activities indicated may possibly be "pattern setting." As they stand, they are restatements of ATI's goals and objectives. One concept that stands out in ATI testimony and documents as representing a pattern which is also pattern setting is the commodity chain/vertical integration concept. This concept crosscuts nearly all of these pattern setting contributions.

A nice illustration of the Guatemalan version of the commodity chain pattern can be found in an untitled ATI brochure, in a section entitled, "A New Economy for Fiber Producers and Artisans[4]." This figure illustrates a linear pattern of linkages among stages at

[4]An untitled brochure, produced by AT International, Washington, D. C., 1990.

which value is added—from primary production to consumer markets. This is pattern setting because it implies adaptation to local circumstances, without being a cookie cutter approach. Yet even here, there is something missing to validate the pattern setting claim: a statement describing the developmental dynamics of the model. Pattern setting for development entails the substitution of *virtuous* for *vicious* cycles. This implies that there should be feedback loops between stages so that the development process is cumulatively and positively reinforcing. Such a process is the key to sustainability and can also be pattern setting.

One can imagine that desirable loops may exist and how they may work, but what ATI has exhibited (in its marketing materials and in the field) is a linear sequence of stages. Thus, the full flavor and import of the developmental dynamics that ATI is striving to foster are not presently in view. The claim to be pattern setting for development is still not clearly established in this documentation. Diagrammatically, paths which incorporate feedback loops would be better than simple linear chains—for purposes of both marketing and staff training. This observation needs to be balanced, however, by the new subsector paper by Budinich (1992) which should be read in the context of this assessment.

The inclusion of these development dynamics will improve ATI's specification of its goals and objectives and permeate the organization's own chain—from marketing to implementation, dissemination and replication. These dynamics and the feedback from implementation experience are part of a basic understanding of ATI's mission and the kinds of behaviors that can best help to fulfill it. This is equally true with marketing and other disseminations of how, indeed, there is pattern-setting activity at work. The dynamics may differ from one setting to another, so some specification of these is essential, even from a simplified marketing point of view. ATI's focus on patterns (even one with as much promise as the commodity chain) rather than pattern-setting behavior risks a major strategic error—the one ofttimes described as "fighting the last war."

ATI may want to broaden its list of capabilities as presented in its most recent Capability Statement. In addition to assisting small producers of primary products, another potential set of clients has emerged: This is the intermediate sector of producer goods and services. The potential of the intermediate sector is revealed by ATI's successes in working with such small producers to make sure that some of its technologies, such as pumps and stoves, could be produced in sufficient quantities and qualities, at affordable prices, such that market forces would foster dissemination. There are many examples in ATI's documentation, but the ATI-II project with Colegio de Post-Graduados/CEICADAR in Puebla, Mexico, is especially noteworthy. The potential is also revealed by similar projects mounted by other AT organizations; e.g., the Development Technology Center of Indonesia, and by a considerable body of literature. "Chain" remains a key word, because intermediate producers, by definition, do not produce for consumer markets; they provide inputs to other producers.

The Scope of Work directed us to look at what would be an appropriate balance between technology diffusion/dissemination activities and an integrated systems approach. In light of the foregoing discussion, a more appropriate question may concern strategy.

Maximizing the likelihood of impact and sustainability requires strategy for dynamic replication of an integrated systems approach such as the one already at work in Guatemala and Bolivia.

Another major question from the Scope of Work, concerns that of the "fit" of ATI's mission and modus operandi within those of AID, and they are far more problematic. Unless there are major changes within both organizations, the answer is that they do not fit well and ATI should be anchored elsewhere or it should have a semi-autonomous status for its operations. However, the apparent unsuitability of AID as an administrator of ATI is primarily a matter of means rather than ends. There does not appear to be incongruity at the basic level of goals or objectives. Moreover, the relevance of ATI's mission is amply supported from the field officers visited in this assessment. We assume that ATI will continue to evolve in such a way as to be enterprise oriented and opportunity responsive. This implies that ATI must become more, not less, flexible and also more entrepreneurial in its modus operandi.

In this context, two findings of the 1986 evaluators (Delp, et al., 1986) are repeated (our emphasis): "The Cooperative Agreement has served to redirect ATI priorities, but some aspects of the AID system and oversight....impede the achievement of ATI objectives....The oversight role....can move to a more detached phase." All of the underlined are true to some extent—"redirect" to some degree but not entirely; "impede" and "detached" more so now than then.

Delp, et al. (1986) had two recommendations to redirect ATI priorities; (1) "Improve its technical and commercial appraisals in project planning and implementation."(section 6.1 and section 11); and (2) "Place a higher priority on the further development, adaptation and transfer of soft technologies, such as market and risk analysis, in its projects."

Since 1986, ATI has made significant improvements in these two areas. On the other hand, ATI needs continual progress on three 1986 findings and recommendations. Therefore, these also bear repeating as still valid in 1992:

- "ATI's monitoring and evaluation systems should be revised and integrated with planning and field project supervision" (Unfortunately the reduction in ATI's core support has forced a reduction in evaluation staff from 3 persons in 1986 to 1 person today.)

- "ATI has not systematically identified and disseminated lessons learned from its experience." This now can be qualified. ATI has made considerable progress in addressing this concern since 1986, but ATI still can and should make further improvements in this area (section 11).

- "ATI's core financial support from AID has declined, and ATI has not been successful in diversifying its sources of funding." ATI has diversified its

sources of funding, but this progress still leaves ATI short of where both AID and ATI itself would like ATI to be at this point. Also, the progress that has been made has managed to garner only a small amount of core cost recovery, so ATI is still extremely vulnerable to either Congressional or AID cutbacks in federal budget allocations for ATI.

There is some ambiguity in ATI's use of language, compounded by some inconsistency with AID's use of language. The AID-commissioned report by White (1987) might be used to clarify the meaning of terms such as "development," "strategy," and "management." ATI's ambiguity in its use of "pattern setting" has already been noted; other examples are noted in section 5. Resolution of such language problems will help resolve misunderstandings between ATI and AID. A glossary of common terms might help. On the other hand, any attempt to produce common definitions might sharpen disagreements as implicit assumptions in the usage of certain terms are brought to the surface.

Whatever the risks may be, however, the attempt should be made. Other parts of the development community would benefit from this effort as well. One opportunity to develop common terminology was suggested during the AID/R&D/EID review of ATI's CY 1992 Workplan with the remark: "R&D/EID would like to be involved in the development process of the strategy papers ATI is working on and their finalization."[5] Apparently there were some communication problems between ATI and AID in response to this development process and such involvement did not occur.

4.2. MAJOR ROLES FOR ATI.

In the selection and implementation of organizational roles and modes of operation, ends and means may often be the same. For example, capacity building is both an end (goal) and a means (to accomplish various goals). We have found ten major roles for ATI mentioned in various ATI documents:

- Project development (own projects and/or others)
- Applied research and development
- Policy formulation
- Demonstrations/Pilot projects/experimentation
- Capacity building/institutional innovation or development
- Provision of development finance via grants or other capital injections
- Technology transfer/diffusion/dissemination/replication ("soft" and "hard")
- Resource to AID and its USAID Missions
- Development consulting firm role.

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[5]Memo to Appropriate Technology International Files through Tom Mehen, EID Division Chief from Andrea Baumann, ATI Project Officer: *R&D/EID Review of ATI's CY 1992 Workplan -- Summary of Actions and Decisions*, p. 2

AT leadership.

Project development is essential to fulfill ATI's mission, however, it is an expensive undertaking (section 10). Project preparation takes research, time and care. Done properly, it assists capacity building and technology transfer. Development organizations in poorer countries are likely to need considerable help with project preparation, for example, there are few people in such settings who know how to do a business plan or financial pro forma.

Although applied research and development are not emphasized by ATI, they are involved in some R&D from time to time as the situation permits. By and large, however, ATI does not see itself as an R&D organization. Past cooperative agreements have been right to nudge ATI away from this role of developing hard technologies and towards adapting existing technologies. An important exception falls into the category of "soft" technologies (see below).

ATI's role in policy formulation has been important, as there are very few "policy shops" who have the grass roots experience of ATI. ATI has been involved in the policy area since the 1980 Easton conference. Expanding ATI's policy role would require additional core resources to meet its full potential. With adequate resources, ATI could and should do more to identify and disseminate the policy implications of its development work. This relates to a goal that ATI originally saw as part of its own mission—institutional innovation. Even though past cooperative agreements with AID have worked to move ATI away from this goal, ATI should return to it at the policy level. The fourth role, demonstrations and pilot projects, continue to be important roles to fulfill the ATI mission, but they should be conducted more on collaborative bases, as recent ATI experience indicates (sections 8 & 9).

Capacity building is an essential product of any development undertaking. To the extent that past cooperative agreements with AID have influenced ATI to move away from explicit service to this goal, they have been mistaken. Capacity building represents an opportunity for ATI to help other organizations and move itself towards sustainability. Capacity building, also entails extra effort and expense. One way in which ATI contributes to institutional capacity building is through instrumental leveraging—helping project partners obtain funding for joint activities. Expanding its role in institutional capacity building sets forth a very ambitious agenda for ATI, which is expensive and time consuming. There are many large AID and World Bank projects that focus solely on this and ATI should be encouraged to continue its capacity building efforts. ATI is currently involved in capacity building principally by working with local NGOs and other entities; however, more resources are needed to expand this activity. USAID PVO co-financed projects offer potential funding for applied institution building of local NGOs, but they require ATI to come up with a 25 percent contribution in nonfederal funds. Also, some USAID Missions restrict payment of indirect costs for these projects, especially costs incurred at PVO organizational headquarters in the United States.

Provision of capital resources is frequently critical to development projects and micro-enterprises. Thus, it is critical that ATI be able to provide such resources. This does not imply that the establishment of venture capital programs should be one of ATI's major goals. As ATI has recognized in its 1992 strategy paper on financial mechanisms for development, venture capital is a means rather than an end and is only one of many available financing tools. The key to development finance is the ability to provide just the right amount of capital, when it is required, on flexible terms that are tailored to the circumstances of an enterprise. Rarely does this imply provision of venture capital in the conventional sense and the use of this term could be misleading in the developing country context. ATI recognizes this but prefers using the term, "venture capital for appropriate technology" anyway.

The area of technology transfer has been and continues to be an important goal of ATI. Delp, et al. (1986) first pointed out that ATI needs to continue to find new ways of fulfilling these objectives (sections 6-9).

With respect to serving as a resource to AID and its Missions, it is apparent (as indicated further on in this report), that ATI has successfully worked with only a few USAID Missions. Any thought by AID staff, however, that ATI could best serve either its own or AID's objectives by measuring its success in numbers of mission buy-ins, is quite misplaced. Given both the nature of ATI's goals and objectives (as stated earlier) and its experience, ATI is best viewed as a resource for AID central, especially for the bureau to which ATI has been attached. With respect to USAID Missions, ATI can cultivate additional close, mutually productive working relationships with specific USAID Mission staff in its regions of concentration, as it already has in East Africa and Central America.

A complicating factor here is that the bureau from whose budget ATI is funded is now required to serve USAID field agendas. This implies that programs of this office would be evaluated in part on their specific usefulness to USAID Missions as represented by buy-ins. This is not a useful criteria in evaluating ATI, as it was not established for this purpose but rather for the other purposes repeated in this review. This is the unfortunate consequence of mistakenly requiring a small office within AID to fund ATI rather than taking funds off the top of the AID budget (section 5). ATI's value to AID would be further enhanced by regularizing the relationship at the highest levels of leadership of both institutions, e.g., by including a high AID official on the ATI board. At least arrangements should be made for regular dialogue and for assuring that all staff in both institutions are aware of the complimentary relationship and are looking for ways to improve it.

A consulting firm type of role for ATI, even though implied by some features of the current CA (ATI-III), does not appear to be appropriate to ATI. Consulting firms do not have missions in the sense that ATI has a mission. Yet, ATI should nevertheless be responsive to selected opportunities that build upon its capabilities, as it has begun to do. ATI is very interested in working with USAID country programs that share common goals, but many country programs today do not emphasize technology-based small enterprise development.

Finally, even though a leadership role is implied by ATI's mission, such a role has proved to be elusive. As ATI continues to refine and restate its goals and objectives, the organization may want to consider what kind of leadership role it can or should play, and how. Much will depend on ATI's Board of Directors and how the composition of the Board may change. ATI appears to need more of a working or entrepreneurial Board and one somewhat less oriented to a traditional "appropriate technology" agenda. Additions to the Board made in November 1992, would suggest that it is moving this direction.

4.3 MAJOR RECOMMENDATIONS.

1. ATI must become more, not less, flexible and also more entrepreneurial in its modus operandi.

2. ATI's monitoring and evaluation systems should be revised and integrated with planning and field project supervision.

3. The AID commissioned report by White (1987) might be used to clarify the meaning of terms such as "development," "strategy," and "management." A glossary of terms containing mutually accepted definitions, should be produced. Resolution of such language problems will help resolve misunderstandings between ATI and AID.

4. ATI can and should do more to identify and disseminate the policy implications of its development work.

5. ATI should be encouraged to continue its capacity building efforts.

6. ATI is best viewed as a resource for AID central.

7. ATI needs more of a working or entrepreneurial Board and one somewhat less oriented to a traditional "appropriate technology" agenda.

8. A high level AID official should be included in ATI's Board.

5. ATI-III COOPERATIVE AGREEMENT DOCUMENT

From the beginning of the assessment until its end, the assessment team was continually grappling with the contents of the CA and its appropriateness as an obligating instrument. These issues were raised in the context of whether AID should continue supporting ATI, and if so, in what form. Concurrently, these same issues were of prime concern to ATI, AID's R&D/EID and Office of Procurement (OP), and Congress. Therefore, this section will discuss some of the major problems and issues with the CA and

recommendations for corrective action. We will also discuss some opportunities and measures which can be taken in the future to provide ATI with financial assistance.

5.1. FINDINGS.

5.1.1. Terminology. New and/or unusual terminology was introduced into the Cooperative Agreement (ATI-III) as well as subsequent documents. However, the terms were never defined nor were the terms and definitions agreed upon among the concerned parties. Furthermore, personnel within the same organization (ATI or AID) often used the same terms differently and applied different meanings to the same terms. As could be expected, this led to misunderstandings. For example, the term leveraging is frequently used either alone or in the context of "direct leveraging" or "instrumental leveraging." To some readers, the term "leveraging" implies the infusion of funds which will lead to an equity position. However, it can also be used in the development assistance context, whereby an infusion of funds is used to attract other donor funds, thus creating a larger project.

ATI introduced the term "instrumental leveraging" to define situations where ATI's funding of a local NGO or institution helped to attract other donor funding. The concept of "instrumental leveraging" is valid and has a role to play in development assistance programs; however, it is separate and distinct from the term "direct funding" (where the funding from another organization passes through ATI's financial records). These terms appear throughout the CA without being defined nor cross-referenced. This led to ATI defining other terms; e.g. "Direct" and "Leveraged," which are the two major categories in "Annex I: Targets for Financing," of ATI-III. Since these terms were never formally defined nor referenced, ATI expanded the category "Direct" to include "instrumental leveraging" and the category "leverage" to mean "indirect funding" (where ATI was involved in assisting an organization in obtaining funding and/or technology, but ATI provides no funding, plays no management nor financial role, and receives no financial incentive).

In their CY 1992 Annual Work Plan, ATI requested AID to concur with their definitions. This would have allowed ATI to be better able to meet its funding targets. As discussed elsewhere, ATI has focused more on projects which helped in meeting its leveraging targets than on projects which can provide administrative cost recovery funds (income) to support in-house operations. It should be noted that the problem of fuzzy and ill-defined terms was carried over into the Scope of Work for this mid-term assessment. The following are some terms which need mutually agreed definitions by ATI and AID as to their meaning: (1) Administrative Cost Recovery, (2) Direct Funding, (3) Financial Assistance, (4) Indirect Funding, (5) Instrumental Leveraging, (6) Sustainability, (7) Leveraging, (8) Replicability, and (9) Technology Package (definitions in 5.1.2.1).

5.1.2. Discrepancies and Inconsistencies in the Cooperative Agreement.

The Scope of Work and various ATI and AID documents highlighted numerous discrepancies and inconsistencies in the CA. The Scope of Work requested that the assessment team address these discrepancies and inconsistencies and provide guidance for resolving them. We noted many of them were the result of a poorly written cooperative agreement which included undefined terms, inconsistent program guidance, ambiguous terminology, and unrealistic financial targets.

5.1.2.1. Definitions

Undefined terms and ambiguous terminology led to mis-communications between ATI and AID resulting in friction and poor relationships. ATI proposed in 1992 annual workplan a set of definitions of the terms "direct" and "leveraged" as their targets of financing, as reflected in Annex I of the CA. Broadening the intended definitions would allow ATI to meet its "leveraging" requirements, but this request further strained their relationship. However, this broader definition does not address, nor does it help ATI with its efforts at, cost recovery by charging for technical assistance and related costs through an overhead rate, direct charge, or a management fee. AID and ATI never resolved their differences in defining the terms and it was left for the assessment team. The following represents our definition of important terms as contained *within the cooperative agreement* and pertaining to it.

5.1.2.1.1. Administrative Cost Recovery—A concept relating to the monies (e.g., a management fee, overhead rate, or direct costs) received from sources other than the cooperative agreement that can be used to offset and/or complement the core-funds received under the CA.

5.1.2.1.2. Direct Funding—Monies, which were received through sources other than the CA, that will pass through ATI's accounting records to carry out program activities.

5.1.2.1.3. Financial Assistance—Those monies, provided under the CA, which are used to attract other donor funding to implement appropriate field technology projects.

5.1.2.1.4. Indirect Funding—Monies, not passing through ATI's accounting records, that result in projects not involving ATI's funds nor technical involvement. Indirect funding is the result of ATI's efforts to influence donors or encourage replication of technologies and dissemination of strategies previously demonstrated by ATI.

5.1.2.1.5. Instrumental Leveraging—Monies, not passing through ATI's accounting records, that ATI helps a local institution to obtain for projects requiring jointly the project partner and ATI's financial and/or technical involvement to implement. Other international organizations frequently refer to this concept as parallel financing.

5.1.2.1.6. Sustainability—The ability of ATI to function as a viable organization based upon a core-operating budget of $3.0 million from AID funds with growth and adjustments for inflation coming from administrative costs recoveries.

5.1.2.1.7. Leveraging—The process of using financial assistance monies to attract other donor funding (i.e., including direct funding or possibly instrumental leveraging, but not indirect funding).

5.1.2.1.8. Replicability—The likelihood that a project being demonstrated or implemented in, or a project design for, one location can be adopted or adapted and implemented by actors and/or agencies in another location. This likelihood would be contingent upon a number of factors, especially flexibility in the design and the availability of lessons learned or technology transfer based on prior demonstrations.

5.1.2.1.9. Technology Package—An interrelated set of technologies or a sequence of technologies needed to produce a given output or result. Example: Irrigation, fertilizing, cultivating, harvesting, and post-harvest technologies to produce agricultural products.

5.1.2.2. Overhead Rate.

An overhead rate is discussed per Attachment 1, Article IV of the CA. It states that, "... a rate or rates shall be established for each of the recipient's accounting periods which apply to this Agreement." This article further states, "... provisional payments on account of allowable indirect costs shall be made on the basis of the following negotiated provisional rate(s) applied to the base(s) which are set forth below..."

The Grant Budget, Attachment A to Attachment 1, does not include a line item for overhead rate. In prior cooperative agreements, ATI was reimbursed on a direct cost basis and through the time of the assessment, ATI has continued to be reimbursed this way. They expect it to continue until the CA terminates. ATI and AID's OP must decide if ATI is to continue being reimbursed on a direct cost basis or on a cost plus overhead rate. It is recommended that ATI continue being reimbursed on a direct cost basis only.

5.1.2.3. Targets for Financing, Annex I.

The CA contains inconsistent language in defining how to calculate the "leveraging" impact of its sub-grants. There are two issues associated with these inconsistencies. First, the issue of whether the $39 million target for direct financing includes the $15 million of AID core money or not. Second, there is the difficulty in interpreting what kinds of ATI involvement in projects should be included in reaching the $39 million target.

The first issue is addressed in one section of the CA's project description (Attachment 2) which states, "Annual performance targets for funding received from other donors have been established based on ATI's own calculations of parlaying AID's $15 million ($3

million/year for five years) into a total program in excess of $39 million..." Another section of the project's description states, "In total, ATI expects to receive (through ATI's books either in Washington, D. C., or in its branch offices overseas) over $39 million in financial assistance for services performed and/or subprojects implemented. Only projects in which ATI is actively involved in the design, or in their management and implementation, will be counted towards meeting the $39 million goal for the purposes of this Cooperative Agreement." In the Annex I table: "Targets for Financing" to Attachment 2, the total amount of direct leveraging is shown as $39.236 million. This amount was derived without including the $15.0 million from the cooperative agreement and despite the CA's inconsistencies it appears that was the intent of the cooperative agreement. The CA's project description and Annex I need to be rewritten to clarify these inconsistencies.

The second issue is whether ATI will be able to achieve its direct-leveraging target. This is partially dependent on resolving how to calculate the $39 million and clarifying how to define ATI's involvement. Apart from that, it was planned that ATI would seek leveraging from: buy-ins, RFP's and other cooperative agreements from AID, international development assistance organizations, bilateral donors, host country governments, and private sources. The CA's Annex I did not include funds from other U.S. government agencies and it should have. ATI's overall success in meeting its direct leveraging targets under ATI-III has been very limited (Table 1).

Table 1. ATI's progress against direct financing targets as of October 19, 1992.*

Annex I Category	5 Year Target	Signed Agreements As of Oct. 15, 1992
Buy-ins	5,830,000	1,674,288
RFPs/other CA's/from AID	6,006,000	1,231,350
Int'l. Dev. Asst. Org.	11,125,000	4,086,269
Bilateral Donors	10,025,000	162,701
Host Country Governments	5,400,000	0
Private Sources	850,000	194,021
Subtotal	39,236,000	7,348,629
Other**	0	142,733
TOTAL	**39,236,000**	**7,491,362**

* Source: ATI.
**Not part of Annex I, but added to reflect funding from other U.S. government agencies.

As Table 1 shows, ATI has not reached its leveraging target for the end of FY 1994 for direct financing and it has been negotiating with AID to expand the definition of direct financing. *We believe that this is unnecessary* and separate targets should be established for direct financing, instrumental leveraging, and indirect financing.

5.1.3. Organizational Budgeting.

ATI ". . . requested several specific changes among the line-item budget allocation for the 1992 budget in order to continue the growth of ATI's operation within the existing funding constraints."[6] These changes included requests that the $252,000 related to the budget line item, "Financial Assistance" be transferred to the budget line item, "Other Direct Costs." This budgetary transfer, "...was necessary because we recognized that the level of anticipated overhead revenue projected at the time the CA II budget was prepared in late 1989 (see CA II, Annex I) would not materialize." It is also ATI's intention to request that the $225,000 and $262,000 budgeted for 1993 and 1994 respectively for, "Financial Assistance," be transferred to "Other Direct Costs." If these shifts in budget line item occur, then only approximately $33,000 of the $15 million CA will be used for "Financial Assistance" with the remainder being used for "other direct costs;" e.g., administrative costs. In order for the budget line item shifts to occur, the grant officer must approve them and amend the CA accordingly.

5.1.4. Project Management and Timekeeping.

A major aspect of managing a project is being able to say what is being done and how well it is being done. In order to do these things, a project information/management budget system as well as an accurate and meaningful timekeeping system must be in place. Even though ATI's accounting system has been upgraded, we found no evidence of a project management budget in use. This budget would contain different budget line items than those appearing in the CA, since it would focus on program activities. This budget would be used as part of the monitoring and reporting of program performance (see section 5.1.6).

Such a budget would make clear how much money (calculated from timesheets and general expense reports) has been committed and expended in the areas of: new initiatives, on-going project management, research and development, proposal development, AID compliance, close-out of ATI-II, technical services, office operations, and other relevant areas. 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. ATI's current timekeeping system is quite comprehensive, to the extent that the timesheets are overwhelming in structure and configuration. As shown in the annual report, the timekeeping system provides program staff time (in person weeks) by the following allocations: project identification, new business development, project management, other program support,

[6]Memo from ATI VP for Operations to AID Project Officer, October 22, 1991.

reimbursable activities, general support and administration, policy activities, information services, and other (leave, holiday, etc.). However, it still doesn't capture certain critical functions; such as research and development and those project activities as outlined in the CA. Although numerous ATI personnel were cynical about the current timekeeping process it is recommended that the current timekeeping system be simplified and made relevant as an important management tool, i.e., to identify the costs associated with staff allocation and program areas.

5.1.5. Administrative Cost Recovery.

The CA anticipated that ATI would recover approximately $4.875 million to offset and complement the funding shortfall needed to cover administrative costs. These recovered costs could cover inflation, salary increases, organizational growth and similar expenses. Based upon what ATI has already recovered ($960,000) and what it should recover from proposed projects ($1.9 million) in the pipeline, it should be able to recover the balance ($2.0 million) in the final years of the CA.

ATI stated, (confirmed in conversations with various USAID Missions), that there was a reluctance on the part of missions to pay for overhead and even direct program costs, such as personnel costs, when participating in the project through a buy-in process. The feedback that ATI personnel received from USAID Mission personnel included: (1) one Mission Director was willing to pay for only project activities and no ATI direct field office expenses; (2) several USAID Missions stated that since ATI received core funds from AID's R&D/EID, there was no need for them to pay for ATI's overhead expenses; (3) another USAID Mission would not consider overhead on unsolicited proposals; and (4) on orders from a USAID Mission Director a contracting officer rejected an ATI proposal which included indirect costs. However, AID, R&D Bureau personnel expect ATI and other PVOs to recover overhead and direct expenses from USAID Mission buy-ins, although they recognize that it is not fully realistic. Unfortunately, AID's R&D Bureau and USAID Missions are unable to reconcile this conflict. ATI did not aggressively pursue recovering these costs of carrying out its programs. Since ATI personnel felt secure, financially and philosophically, as a result of its understanding of its role in international development assistance. Until 1992, ATI often did not ask for overhead or direct program costs, and when it did and resistance was encountered, the issue was dropped. In late 1991, there was a change in leadership in ATI's finance and administration unit after which there was stricter unwritten policies adopted on seeking indirect cost recovery. ATI also hired a management consultant in early 1992 to conduct a staff training seminar on budget preparation and indirect cost recovery.

Historically, ATI has been preoccupied with selecting projects that maximized its leveraging multiplier at the expense of those projects with a lower multiplier but providing a greater opportunity for recovering administrative costs. However, during 1992, ATI has begun learning the importance of negotiating with USAID Missions and other donors for recovering administrative costs. As stated by ATI's VP for Operations, "Finally, let me close by stating that ATI management as well as our Board of Trustees share the concern expressed

by A.I.D. regarding ATI's continuing need for financial assistance funds, and our low level of overhead recovery to date....We also recognize that value of gaining more overhead recovery to support general ATI activities, including those that would offset activities normally charged to ATI-III."[7] At our request, ATI reviewed its signed agreements and found that they had administrative costs recoveries (defined here as personnel, other direct costs, indirect costs/overhead (OH), and management fees) which will total approximately $960,000. Even though these results, after 33 months of project implementation, are significantly less than the expected $2.47 million for 36 months, ATI has made concerted efforts to improve its rate of administrative cost recovery. The 11 proposed projects in ATI's pipeline are expected to yield administrative cost recoveries of approximately $1.9 million (See Appendix 12.4). Consequently, ATI is making marked improvement in its efforts to recover the $4.875 million of administrative costs, as shown in the CA's Annex I, during the five year life of ATI-III. Because these recovered funds are critical to ATI to supplement funding of the CA, ATI needs to continue focusing on administrative cost recovery.

However, the assessment team believes that if ATI is not able to recover sufficient funds to cover its administrative costs above AID's contribution of $3.0 million and a shortfall occurs, then the CA should not be amended for additional funding beyond the $15 million proposed budget to offset any shortfall. ATI should be held responsible for funding any shortfalls including those resulting from inflation. Currently, ATI has no formal written policy regarding how the "freed-up" funds would be used when administrative cost recovery occurs. In consultation with ATI staff, they suggested that the "freed-up" funds would be used to increase: firstly, temporary staff, then consultants, and finally travel. This usage of "freed-up" funds should be oriented toward a degree of self-sufficiency rather than growth.

To assist in funds management, it is suggested that ATI develop an operating budget covering the last two years of the CA. This budget should include AID funds, the funds received from administrative cost recovery and all 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.

5.1.6. Project Reporting.

We found ATI's reporting to AID to be confusing and incomplete. For example, the January 1/June 30, 1992 semi-annual progress report included all three of ATI's current cooperative agreements. That in itself may be acceptable if there were absolutely separate sections on each cooperative agreement, but the report juxtaposed activity from the three agreements. ATI advised us that the single report format was used so that they could satisfy various demands without producing different copies and in accordance with past precedent. ATI stated that their last Annual Progress Report (for 1991) was tailor-made to suit the format and content desired by a former Technical Manager. However, the various consultants felt that the single report format was not as useful as it could have been. ATI received little

[7]Memo from ATI VP for Operations to AID Project Officer, October 22, 1991.

or no feedback from the current Technical Manager on the last semi-Annual Progress Report. We believe that a separate report for each cooperative agreement would be most beneficial.

ATI mentioned that a uniform reporting format had not been used during the life of ATI-II & ATI-III, since different AID project officers required different items of information. Just the same, it appeared that the semi-annual report was overly long, included non-CA specific items with unnecessary sections and back-up tables in the Annexes (e.g., Balance Sheet and Statement of Revenue, Expenditures, and Fund Balance). It also excluded required sections such as: comparing goals with actual accomplishments for the period; reasons why the established goals were not met; and a table identifying the amount of administrative cost recovery effected. Also, reporting did not correspond to the activities included in the program description. Most of these criticisms also pertained to ATI's annual report, and the result, one suspects, was a loss of impact.

Both attachment 1 and 2 of the CA set forth very specific reporting requirements for the semi-annual progress reports. They state:

> "At a minimum, the reports shall contain the following information:
> a. A comparison of actual accomplishments with the goals established in the approved annual workplan for each program or function.
> b. In cases where established goals were not met for any program or function, an explanation of why they were not met.
> c. Other pertinent information on each program or function."(ATI-III)

That reporting which was done, was disjointed, unclear and spread among numerous pages. Consequently, it was believed that these reporting requirements were not being met fully. These reporting requirements are critical to project oversight and monitoring. It is recommended that the semi-annual progress reports cover only the CA for ATI-III and be more systematically organized. Further, they should include specific reporting requirements regarding comparison of specific goals and objectives and explanations why they are not met, and other information, such as status of administrative costs recoveries, as requested by the project officer, grants officer and the CA.

5.1.7. Internal Evaluation Indicators.

AID's R&D/EID agreed to consider amending performance targets and outputs in the CA, and these changes, which were called "ATI's Internal Evaluation Indicators," were proposed in ATI's 1992 Annual Workplan. We were asked to comment if these "Internal Evaluation Indicators" were appropriate.

We suggest that Internal Evaluation Indicators should be realistic, well-defined, inexpensive and easy to track, and simple for presentation purposes. They should also relate to the project purpose and description. We believe that ATI's proposed indicators do not meet these criteria and should be revised further (section 11).

One result of a poorly written CA has been ambiguous objectives which has led to difficulty in defining the indicators. In turn, it is believed that poorly defined indicators have contributed to the poorly written semi-annual reports. To the extent that objectives are defined in the CA, it appears that ATI has moved in a new direction and the original objectives and indicators are no longer valid. Consequently, in amending the CA, new and realistic objectives and indicators need to be developed and incorporated into the amended CA.

5.1.8. Sustainability.

The element of future financial assistance to ATI is linked with the issue of sustainability. Sustainability is predicated on ATI's ability to: (1) receive future core funding from AID; (2) recover basic overhead costs from projects or organizations where they provide technical assistance and/or a service; (3) successfully bid and respond to contract opportunities, i.e., responding to RFPs; (4) obtain funding from unsolicited proposals; (5) recover funds to replenish its sub-grant leveraging fund; (6) raise unrestricted funds from individual donors and organizations; and (7) other recognized means.

According to Annex I of the CA, it was expected that during the life of this project, ATI would obtain $5.830 million of buy-ins. To date, ATI has received $1,674,288 of buy-ins, with minimal administrative cost recovery, under the project. These funds were basically for project purposes only and were only a pass-through on ATI's accounting records. It was also expected that ATI would compete for RFP's and cooperative agreements from AID and win awards approximating $6.006 million. To date, ATI has not won RFP awards and they have competed for only a very few, and the ATI staff has very limited experience in responding to RFPs. However, ATI has obtained other AID cooperative agreements (grants) totalling $1,231,350, but not all of these funds provide ATI an overhead.

Historically, ATI has not developed an unrestricted fund balance, and it currently has a small negative fund balance. This balance will be reduced from the interest being earned on an advance from an UNDP funded project. Apart from these funds, ATI currently has no other source of unrestricted funds. The individual members of the Board of Trustees have not been a source of funds and have not often assisted in soliciting funds from potential individual or organizational donors. ATI pursued being a part of the Combined Federal Campaign (CFC), and even though they did not qualify this year, they hope to qualify next year. The need to develop an unrestricted fund balance is critical since OMB Circular A-122: "Cost Principles for Non-Profit Organizations," prohibits federal funds from being used for fund raising proposes. "Costs of organized fund raising including financial campaigns, endowment drives, solicitation of gifts and bequests and similar expenses incurred solely to raise capital or obtain contributions are unallowable." ATI is truly in a Catch-22 since without unrestricted funds they are unable to conduct fund raising efforts and without fund raising efforts, the ability and opportunities to raise unrestricted funds are difficult.

5.1.9. Subsequent Instruments of Assistance.

If AID continues supporting ATI at the end of the current CA, what manner and form should this assistance take? This issue is explained to some extent in section 10. Given the prospect for radical changes in the foreign assistance system possible in the next two years and this very limited time available for this assessment, the team did not extensively investigate all possibilities.

ATI currently fits well into AID's agenda for foreign development assistance, when it is defined as a development assistance organization. From another perspective, ATI and AID are different in styles and means used in reaching similar ends. Since political agendas and trends in foreign development assistance change, the team strongly encourages ATI to accelerate its efforts to position itself to be proportionally less dependent upon AID and the Congress when its current core CA terminates.

In addition to ATI's core CA, ATI has another cooperative agreement of $1.0 million that provides seed financing to leverage additional sub-grant financing. The way the ATI-III is structured, the funds are fully disbursed over time and new funds must be sought if additional sub-grants are to be made. Additional funding from AID outside the current CA is always an issue and dependent upon Congressional funding of AID. ATI and AID 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. This recovery could be in the form of: a return of principal, return of principal and interest, or income from an equity position. ATI will be lessening its dependence upon AID and the Congress for future funding by replenishing some of its sub-grant leveraging fund. However, any recovery of leveraged funds will not address the need for core funding for administrative costs or for leveraging funds in some magnitude.

Currently, ATI is being funded from AID's R&D/EID budget. As budgets become smaller, ATI's funding becomes a larger percentage of the R&D/EID budget. Consequently, that has left the R&D/EID office with less funding and flexibility to carry out its other programs. As might be expected, this situation causes problems in relationships between ATI and the R&D/EID office. For the well-being of all parties and because it makes programmatic sense, specific action should be taken so that R&D/EID does not shoulder the entire cost of funding ATI. Congress mandated the creation of an ATI like institution and has used AID as the mechanism for funding it. Consequently, the U.S. Congress should earmark funds for ATI so that AID 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. However, R&D/EID might continue to manage a relationship to the program in some capacity.

The question was raised as to whether ATI should continue obtaining AID funds through a cooperative agreement or another instrument. A contract would not be appropriate since it is used when the principal purpose is to buy, acquire or purchase something for the

federal government's use. Both a cooperative agreement and a grant are assistance instruments, but a cooperative agreement anticipates greater federal agency programmatic or substantive involvement during performance of the agreement. We recommend that the current CA be amended and remain as a cooperative agreement for the remaining two years for continuity of management responsibilities and substantive involvement during ATI's transition period from a grant-awarding to a technical assistance institution. 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 diversifying its funding base.

5.2. MAJOR RECOMMENDATIONS.

1. AID and ATI should amend the Cooperative Agreement (ATI-III) to eliminate the discrepancies and inconsistencies and establish meaningful program targets.

   A. The revised Cooperative Agreement should include a glossary of terms that is agreed upon by all parties. The Cooperative Agreement and glossary should include all relevant terms whether in use formally or informally. At a minimum, the glossary should include the terms listed in sections 5.1.2.1.

   B. The revised Cooperative Agreement should reconcile the difference between the Budget, which represents direct cost reimbursement, and Article IV Overhead Rate, which implies that allowable indirect costs will be reimbursed on an indirect cost basis.

   C. The revised Cooperative Agreement should better define financing targets and establish new financing targets.

   D. ATI must request the grant officer to approve a shift of funds from the budget line item, "Financial Assistance" to "Other Direct Costs."

   E. The revised Cooperative Agreement should reconcile the differences as to whether direct financing funding targets should be $24 million or $39 million, (i.e., the difference being the $15 million of core money) or some other agreed upon figure.

2. Annex I should be amended to reflect separate financing targets for direct funding, instrumental leveraging and indirect financing.

3. A. ATI should continue increasing its focus on enhancing its rate of administrative cost recovery while continuing to pay attention to other objectives of the CA.

B. ATI should develop and monitor a two year administrative budget through the end of the Cooperative Agreement. This budget should include both AID and cost recovered funds.

4. ATI should establish a project management budget.

   A. ATI should establish procedures for monitoring and reporting program performance in accordance with the guidelines set forth in Attachments 1 and 2 of the CA.

   B. ATI should develop a planning budget covering the 2 years immediately after this CA terminates.

5. ATI must expand its efforts to obtain financing from new sources, such as AID requests for proposals, bilateral donors, and international development assistance organizations (UNDP, UNCDF, IFAD, World Bank, and Regional Development Banks) other U.S. government agencies, and private foundations.

6. ATI needs to develop specific plans for developing sources of unrestricted funds and implement it as soon as possible.

7. AID, with congressional support, should consider funding ATI from the agency's overall budget rather than as a line item in R&D/EID's budget.

8. ATI and AID should work together to ensure that future cooperative agreements or grants for sub-grants contain a provision that would allow ATI to recover funds to be reprogrammed for project purposes.

9. ATI should consider training and upgrading its staff in the area of grant and proposal writing as well as project budget development.

6. EFFECTIVENESS

Traditional approaches to appropriate technology development have considered hardware as the key R&D activity. Over the past several years, ATI has broadened this approach by considering the hard technology as an anchor in developing a specific subsector or small enterprise activity. From this anchor other hard or soft technology issues can be incrementally identified and addressed. This fundamentally differs from a broader small enterprise development or subsector approach, in that small producer-friendly hard technology

development and dissemination issues are taken as an entry point to small enterprise and subsectoral development.

Sections six through nine present field-perspective findings and recommendations on ATI's efforts over the past several years to move program and project activities in this systems-based subsectoral and small enterprise direction. For this reason, some general comments are necessary here that relate to all of these field-perspective sections. Overall, we found that ATI is increasingly using subsectoral and enterprise approaches to effectively address food security, employment, and income generation issues of small and marginal producers. Our recommendations will focus on areas in which ATI should adjust, augment or improve project and related program activities to enhance performance and impact. It should be noted that given these new directions set by ATI, we felt that assessing the **comparative advantage** of ATI in using subsectoral and commodity-specific small enterprise approaches leads to a more dynamic understanding of their work. It is more instructive than articulating a generic, 'unique niche' that they occupy globally in relation to smallholder development.

For example, in Tanzania, where food security and employment generation are priority issues, ATI is focussing on the oilseed subsector in which hardware (small oil presses) can make a significant difference to small rural producers, consumers and entrepreneurs. In this particular situation, ATI's comparative advantage in relation to other government and non-government entities has been to utilize small oilseed presses as an entry point and then tailor to a technology that: (1) can be locally manufactured and repaired, (2) addresses food security issues at village level, (3) provides income through both service pressing and value-added by processing at farmgate, and (4) provides employment and in-cash/in-kind income for part-time workers engaged in pressing and collateral activities.

From this initial hardware focus, ATI staff are working with local inhabitants as well as national and international organizations in identifying, articulating, and incrementally addressing subsectoral issues. Equally important, they are doing this *from the perspectives of small producers and entrepreneurs* and focusing on issues which occur both up- and downstream from the hardware. In Tanzania, the team found that such incrementally identified activities have included: provisioning of improved sunflower seeds, small loans, and agronomic advice relating to intercropping of sunflower and staple crops. ATI will need to bring in technical assistance to help field staff identify other institutions or short-term consultants that can work collaboratively with ATI in addressing issues that will be identified over the life of project activities in the subsector.

In Senegal, one hard technology focus is on treadle pumps suitable for small-producer horticulture. This approach works with small entrepreneurs in developing informal sector production, marketing and maintenance of the pumps. Here the larger subsector in which the technology is appropriate (small home gardens) is being taken as a contextual 'given' rather than as the identified subsector in which ATI works. Similarly, the improvement of production and marketing of appropriate charcoal stoves in Senegal is approached as a small enterprise development activity. ATI staff work with small producers to develop and

coordinate the different production and marketing activities in this commodity chain (clay liners, metalworking, promotion, distribution, and sales). The related subsectors of fuelwood and food production are taken as larger, contextual 'givens' in which demand for improved stove efficiency is situated.

In Bolivia and Guatemala, a more comprehensive subsector approach is being employed. Here, ATI works with a variety of groups involved at different points along the commodity chain associated with alpaca and wool products—from raising of the animals through international sales. With respect to a broad sectoral approach, these projects are the most comprehensive that we visited. Particularly in these two projects, ATI has been working as an intermediary to coordinate groups that are situated at different steps along the commodity chain, and to address issues of both soft and hard technology improvement. In Tanzania, such a formalized move from the hard technology of the oilseed press to linkages within the larger subsector is only now beginning. Major differences in existing production, processing and marketing systems between Latin American and Africa on the one hand, and between Western and Eastern Africa on the other, result in significant differences in subsectoral behavior that will impact on the nature of ATI activities. During the time we undertook this assessment, ATI was developing a strategy paper for a commodity subsector approach. This paper by Budinich (1992) serves as the framework for all major ATI projects planned in the future, and should be read in conjunction with this report.

A tradition of rural formal and informal marketing systems as a base on which to build enhanced subsectoral activities, is weaker in Eastern African than in Western Africa. In much of Latin America, such a base is generally stronger and more developed than in most of Africa as a whole. Thus, this and capital investment in subsectoral development stand to be greatest in Tanzania and correspondingly less in Senegal, Bolivia and Guatemala (in that order).

In all these examples certain crosscutting issues of hardware use as an entry to smallholder development will be treated under topical areas: 'Effectiveness' (this section), 'Impact' (section 7), 'Efficiency' (section 8), and 'Sustainability' (section 9). Each of these areas is discussed along lines of technical, socioeconomic, institutional, policy, and research issues.

6.1. TECHNICAL.

Over the last two years ATI has been moving from a more classic 'transfer of technology' approach to either a subsectoral or commodity-specific small enterprise development approach. The later refers to situations in which small producers are taken as the starting point in determining the kinds of interventions needed to address production through consumption issues. This trend runs parallel to fundamental changes in research and development approaches now taking place in agriculture, agribusiness, small enterprise development, agroforestry, natural resource management, and other R&D areas. The move is

away from a top-down technology "fix" (for example, improved seeds that are extended to farmers) to more participatory, client-centered and demand driven approaches that situate technology development within a broader system of supply and demand. These approaches also emphasize issues of client demand (what is technically the best improved seed or press may not be the best when placed in the context of client/farmer opportunities and constraints).

Another aspect of this transformation is greater R&D attention to moving value added closer to farmgate and within rather than outside of the country. Improved post-harvesting processing, whether at small, subsistence-oriented farm level or the level of agribusiness-based export enterprises, are part of this effort. The recent changes in ATI approaches to both hard and soft technology development should be seen as part of this broader shift away from supply-driven approaches to more demand-driven and development approaches. By doing so they work to move value added within a subsector or along a commodity chain closer to primary and secondary producers.

We found that while home office staff are moving towards a basic understanding of a subsectoral approach to technology development, national and expatriate field staff need additional training. To accomplish this, ATI should develop better feedback systems between home office and the field through visitations, joint learning/training, and information exchange on these issues.

We also found that field staff were often making informal linkages within a subsector in order to more effectively address issues up- and downstream of a particular hard technology, but these activities were not being captured in reporting procedures so that needed technical assistance could be provided. ATI needs to more systematically identify such soft technology issues, from initial baseline assessments through applied research and project implementation activities. Knowledge of appropriate institutions that could be brought to assist will speed the process of collaborative work where ATI does not have the expertise to cover a particular activity within a subsector. For example, business training and credit are two areas in Senegal that ATI is incorporating in conjunction with other, local institutions. ATI commissions baseline socioeconomic studies for most of its projects. Here, also ATI should enhance feedback systems between such studies and ongoing project implementation. One cost effective and labor-saving way to do this is to have project staff (with national and expatriate) involved in baseline data collection.

6.2. SOCIOECONOMIC.

ATI's comparative advantage is as a small development organization working directly with small producers in identifying areas of technology improvement and/or introduction that enhance food security, income generation and employment at the small producer level. The team found that indicators of effectiveness in this endeavor at project level are not now being systematically identified and tracked. Simple counts or numbers of stoves or presses made and sold do not provide information about socioeconomic impact. 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. Involving project staff in these activities from the beginning serves to enhance project performance. Simple baseline development (as distinct from extensive baseline surveys conducted on some projects) together with ongoing monitoring, should be treated as part of project implementation. Detailed monitoring and analysis can then be conducted by short term technical assistants, as need dictates and budgets may allow. This issue is now being addressed by ATI's home office.

Ongoing monitoring will of course, be conducted by project staff as part of normal implementation and reporting procedures. If simply designed, collection and basic analysis of these data will require minimal staff time and should become one feature of regular field level reporting. ATI should bring in short term technical assistance to help develop a simple, project-level monitoring and tracking system. Once set up and operating, it will help staff better understand potential and real target groups, together with groups who may be less easy to reach directly. It will also help to identify groups that are or may be adversely impacted by ATI interventions. For example, what are costs and benefits to laborers hired to work treadle pumps in Senegal, as related to income increases by pump owners who are able to increase production and sales of horticultural crops watered by these pumps? What is the actual increased intake of oil within the household in Tanzania, versus sales of home-pressed oil in order to generate cash? How does this vary by strata, locale, gender, and age? Information on these and related questions will help clarify effectiveness of ATI's operations in a particular project, as well as provide data that can be used in assessing trends within and across projects. 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. The IDRC grant to ATI for work on the oilseed subsector in East Africa is being funded with this kind of activity in mind.

6.3. INSTITUTIONAL.

The initial use by ATI of its own or a partner's institutional mechanisms for project development has been widely used in start-up phases. In Senegal, they work with small enterprises within the informal sector and this appears to be a successful approach both for start-up as well as for longer-term sustainable enterprise development. However, in both Senegal and Tanzania, but particularly the latter, a plateau has been reached in project activities whereby identification of and systematic interaction with a variety of ancillary institutions, both private and public, will be needed to address issues that are being incrementally identified[8].

[8]For example, coordination of specific activities with regional and government research and development entities, systematic linkages with private sector forms such as Cargill Corporation, in seed identification and multiplication, informal contracting mechanisms at farmer producer levels for oil seeds, and ongoing assistance to small entrepreneurs in Senegal engaged in treadle pump and stove manufacturing.

In Tanzania, ATI should seek technical assistance in assessing the current move to contract farming of sunflower seeds through informal arrangements that have apparently been developed by local farmers as a result of the introduction of the oil press. They should also explore the possibility of linking activities with Cargill Corporation in Tanzania in seed multiplication through contracting of oilseeds. There has been a tendency by some NGOs to avoid contract farming, because of concern that the arrangement might be exploitative of small farmers. Actually, the results are mixed and often contingent, not on whether contracting is employed, but rather on how well it is set up and managed (de Treville and Watts, 1986).

In all instances, the use of ATI versus indigenous implementing organizations should be assessed with regard to preexisting institutional, manpower, and infrastructural mechanisms available. ATI should conduct reassessments over time (as a complement to mid-term or end of phase evaluation) within specific projects, to insure targets for developing locally sustainable enterprises and intermediary institutions remain realistic. This activity does not have to be detailed, but it does have to be reintegrated in project implementation and identify areas in need of more detailed technical assistance. Here, the issue is less that of an appropriate model to follow, than it is an approach towards developing institutional sustainability. Different institutional configurations will be appropriate in different circumstances. For example, in Senegal the approach has been to provide assistance to small enterprise development of treadle pump and stove manufacturers with ancillary support being developed by a credit program run by another organization for small entrepreneurs. This contrasts with the use of NGOs and farmer organizations in the subsectoral approach being employed in Guatemala with smallholder wool processing. Assessments are needed of the kind and magnitude of ATI technical and financial assistance to achieve local institutional sustainability in these and other activities.

6.4. POLICY.

The policy environment of technology development can be the single most negative or positive incentive at the small producer level, particularly in relation to import/export and pricing tariffs. In Tanzania, there appears to be a direct correlation between the take-off of presses at village level and price liberalization on imported oils. Locally produced oils now can compete favorably at both local and national levels with imports. ATI should make simple policy assessments an integral part of initial assessments and project implementation. Other examples of potential policy impact areas that ATI should consider on a project-by-project basis include land tenure and usufruct rights, regulatory policy applying to small and micro enterprises/informal sector regulations, import/export tariffs, and pricing structures relating to raw materials (such as steel or wood) that are key inputs to enterprises that ATI wishes to support.

The area of macro- and sectoral policy impacts on the potential for adoption of appropriate technologies and the establishment and growth of small and micro-enterprises is of concern to ATI's mission. In identifying and 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.

Where policy is thought to have particular positive or negative impact, technical assistance to conduct simple policy analysis should be sought, preferably from national institutions or through buy-ins or other forms of short term donor support. Such studies need to be action oriented so that results feed directly back into project planning, design, or implementation. Results and lessons learned from policy studies should be incorporated into ATI's program and project development activities in other areas. The goal is to identify policy issues linked to proposed/actual project activities with minimal information, not a mandate to conduct extensive research or directly transform policy. However, cutbacks in "real core funding" under ATI-III CA makes this difficult for ATI at present and that it is also more difficult to leverage donor money for policy studies than for development projects. ATI staff relate that they were discouraged them from conducting policy studies under the previous CA by AID.

6.5. RESEARCH.

Applied research is being undertaken in all projects visited, although it is not always recognized as such and therefore results are not being captured and utilized to develop more effective project activities. We also found that lessons learned out of a particular project are not being systematically generalized to other ATI activities or to other organizations. For example, in Senegal, the ATI field director has utilized informal sector small businesses instead of NGOs in developing treadle pumps and charcoal stove manufacturing and has used informal sector women's credit informal groups for marketing of stoves. These are applied research issues that address alternative institutional forms and processes for small scale enterprise production and distribution. An opportunity for small enterprise development has been identified and acted upon and discussed in the projects midterm evaluation, but the underlying assumptions and hypotheses remain implicit. ATI's midterm and final evaluations of projects identify key lessons learned and the findings influence the design of other projects.

The team also found that supplier credit arrangements were taking place between some of the small entrepreneurs engaged at different points along the production and sales chain. ATI staff are aware of this fact. This could be an important mechanism to facilitate production and sales and thus should be investigated. In some countries supplier credit remains the single most important informal financial institution for small and microproducers and merchants in facilitating linkages along a particular commodity chain this can be interfaced or coordinated with formal sector financial instruments, such as venture capital (de Treville, 1987). Although supplier credit can be exploitative of those further upstream from

sales, this determination must be made on a case-by-case basis and weighed against the larger fabric of financial information is the country.

In Tanzania, current improvements being made to oilseed presses as well as a variety of other aspects of oilseed production and sales. Among the issues which need further study are: oil production sales, distribution, and consumption; oilseed crop residue being used as a zero-grazing feed; and potential importance of oilseed cake as a value-added commodity. These and other identified issues should then be addressed as applied research topics, the results of which are fed back into improved project activities and also to the broader R&D audience. As an institution concerned with systematically developing more viable approaches to improve smallholder operations, ATI should institute within its projects a simple applied research perspective and related methodology that can address the kinds of project-level examples given above. If correctly developed, this will not require more staff field time, rather different uses of staff time and activities recommended and discussed in 6.1-6.4 provide the basic format and operational features for simple applied research. Two points can be stressed: First, most "project implementation" is itself part of applied research and thus extensive, extra staff and funding are not necessary. Indeed, farmers and other clients are themselves conducting applied research on seed process to improve, from their perspectives, projects initiated activities. Second, by developing systematic collaborative linkages with institutions having a research focus, the time and costs of applied research can be stored, for example, incorporating an MA or PhD national student into ongoing implementation.

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 implementing organizations. Incrementally addressed, the results and other ATI work can be fed back in order to enhance effectiveness at project and program development levels. In the case of the regional oilseed activities in East Africa, it should be incorporated with the IDRC-sponsored research on the topic. We now understand that an upcoming IDRC grant to ATI will help to facilitate this kind of national and regional coordination.

6.6. MAJOR RECOMMENDATIONS.

1. ATI should develop better feedback systems thorough visitations, joint learning/training, and information exchange.

2. ATI should develop simple baseline assessments and ongoing monitoring of minimal indicators. These activities should be treated as part of project implementation.

3. ATI should seek technical assistance in assessing the current move to contract farming of sunflower seeds through informal arrangements in Tanzania. They should also explore

the possibility of linked activities with Cargill Corporation in Tanzania in seed multiplication contracting of oilseeds.

4. ATI should conduct reassessments over time within specific projects, to insure targets for developing locally sustainable enterprises and intermediary institutions remain realistic. This should include assessments of the kind and magnitude of ATI technical and financial assistance needed to achieve sustainability.

5. ATI should make simple policy assessments an integral part of internal baseline assessments and ongoing project monitoring and implementation. Where policy is thought to have particular positive or negative impact, technical assistance, preferably from national institutions or thorough buy-ins or other forms of short term donor support, should be sought.

6. Results and lessons learned from policy studies should be incorporated into ATI's ongoing program and project development and implementation activities in other areas.

7. ATI should institute within its projects a simple applied research perspective and related methodology.

7. IMPACT

7.1. TECHNICAL.

By expanding both concept and practice of appropriate technology to encompass the wider arena of a subsector and commodity-specific small enterprises, ATI has correspondingly broadened the definition of technical impact to include soft technology areas. One assumption behind this systems-based approach is that it will result in better identification, development and adoption of technologies, and thus in improved development at the local level. Another assumption, is that it will result in greater sustainability of project-initiated activities. Specialized technical assistance to address constraints or opportunities identified in the larger system will enhance this effort (section 6). 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.

7.2. SOCIOECONOMIC.

The target population addressed in ATI project work is that of small producers. In the sites we visited, discussions with project participants and our own observations suggested a positive impact. However, it is difficult to independently assess socioeconomic impact

without some of the baseline and monitoring indicators that have been recommended for project implementation. ATI should set up simple indicators to track the kinds and magnitude of impact in key areas (section 6.2). For example, in Tanzania, concerning the household consumption of oil versus sales, is it bulked-on to urban centers, or is it sold locally? Which sectors of the local population are most or least benefiting from a nutritional standpoint? Which people are benefitting from service pressing (press owners may hire local labor to press oil for villagers not owning a press)? More systematic assessments of differential socioeconomic impacts will enhance both an understanding of actual and potential users and constraints impeding client uptake. Under the Regional Oilseed Processing Project planned for East Africa, ATI intends to set up a computerized monitoring system to cover six to eight countries and will include select indicators. Identifying select indicators and then linking results of this exercise back into project planning is an example of how this activity should be integrated.

7.3. INSTITUTIONAL.

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. For example, ATI could expand systematic linkages or collaboration with other institutions who might utilize lessons learned from ATI activities through participation in regional or national networks. ATI is planning to do this on an expanded scale, and has already done so in several cases. Additionally, impact at both research and policy levels should be addressed through collaboration with relevant national institutions.

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. These could be held for ATI staff alone or with people from other organizations. They might create a topically-focused working group or series of task forces, that would include representatives from current or potential donor organizations (USAID, USDA, World Bank, IDRC, FAO, UNEP, etc.; as represented in the D.C. area). Such groups will enhance donor coordination, while also addressing substantive, in-progress issues. Periodic seminars should also be organized in field projects, as a way to bring persons from different organizations together around a common topic.

Networking can also increase the impact of a program or project. The informal newsletter sent out by the Tanzania project is a good start in networking efforts. Topics covered and related analysis should be expanded, and systematic outreach of the newsletter to diverse organizations in the region explored. This would help encourage field level input into the learning process. Subsequent to field visits during this assessment, ATI brought their Tanzanian staff to the home office for interactive discussions and presentations on these issues. USAID project officer and representatives of several other organizations were invited to attend.

7.4. POLICY.

ATI should increase its efforts at influencing policy through making policy-relevant lessons learned available to donor and national institutions. A case in point in Tanzania is the impact on increased sales of oil presses of reducing price subsidies on imported oils. The implications of this kind of cause and effect relationship needs to be widely understood by ATI staff in the field and home office and others involved in this subsector. The impact of extensification of oilseed production on the fragile, semi-arid lands of East Africa and linkages with current or envisioned environmental policy is another example of this kind of relationship. Furthermore, informal policy at village level (by way of traditional land tenure and usufruct rights) is important in assessing long term environmental impacts of extensification of oilseed production by small producers. While ATI staff stress that they are not a research organization, the activities suggested here require simple applied research/diagnostics to identity and analyze.

7.5. RESEARCH.

Although ATI does not have a formal policy or strategy for interacting with either international or national research institutes, staff site a variety of instances of past, current and planned collaboration (both formal and informal) with research organizations. In Tanzania, ATI works with CAMARTEC and Tanzania Ram Press. Also, informal information exchange takes place in Tanzania between project technical staff and staff of one of the research stations of the national agricultural research institute regarding oilseed and associated intercropping issues. This is an excellent beginning at developing linkages between ATI and other institutions with complementary expertise within a given subsector. Institutional linkages need to be approached systematically and lessons learned from this activity shared by ATI amongst staff and other donor organizations. By focusing its efforts at institutional collaboration within a given subsector, ATI stands to enhance performances of all directly concerned entities. ATI needs to more clearly articulate its strategy relating to these institutional linkages. In this way, cross-cutting issues between subsectors, projects and geographical areas can be more readily recognized and treated.

The impact on research institutes of ATI-supported work will be enhanced through common efforts to solve a problem or address an opportunity; the reverse is also true. Such NGO-research linkages have been a topic of some concern and interest over the past several years, especially in Africa (ODI/Farrington 1988; de Treville 1991; Winrock, 1991). ATI should become an active participant, at national and international levels, by contacting these institutes to begin collaboration where it has not already done so.

A survey on NGO-research linkages is currently being administered to over 70 NGOs and research institutes in Africa. While not all results are in, findings thus far tabulated show that over 80% of all institutions have some kind of collaborative activity (NGO with research or technical institute and vice-versa) and that research institutes, universities and technical

schools have been more active in seeking collaborative linkages with NGOs than vice-versa by a ratio of two to one. The majority of collaborative activities have been informal and task- oriented: to help identify research issues or to conduct on-farm trials or demonstrations. Those responding to the survey suggest that lack of knowledge of who is doing what, lessons learned, and ways to share experience, are major problems (de Treville and Achieng-Charles, 1992). ATI is in a position to take an important role in joining and facilitating research-NGO collaborative activities.

A potentially powerful role for ATI with regard to research could be contributing its experience in 'downstream' applied (farmer-level) R&D on post harvest technologies, to international research institutions (e.g., IITA, ILCA, ILRAD, and ICRAF), universities, or technical schools. Formal institutional arrangements of this kind could be developed jointly with such institutes as a collaborative project for donor funding, with ATI acting as formal intermediary between farmers and specific research institute activities. Systematic intermediation between research institutes and farmers stands to enhance the technology development/dissemination process. Farmer preferences with regard to specific varieties associated with post harvest processing can be fed back to researchers by working with local universities and technical schools. Post-harvest technologies is one of the weaker applied research links in production to consumption approaches.

Collaboration with regional remote sensing centers for utilization of satellite imagery in feasibility studies and in ongoing implementation activities is yet another opportunity for ATI but this will depend on the cost and applicability for particular projects. This can be particularly valuable in areas of East Africa where oilseed cropping takes place in fragile, semi-arid lands. An analogy to this is the current work being funded by Rockefeller that integrates GIS and satellite imagery with cassava research and small-holder production in certain areas of Africa. Utilization of satellite imagery at the project level can be a valuable tool for use by project staff as well as by local villagers to understand the relationship between their farming activities and the environment.

7.6. MAJOR RECOMMENDATIONS.

1. ATI should work toward broader coordination and systematic collaborative work at national and regional levels with both government and non-government agencies that are involved in a particular sub-sectoral activity.

2. ATI should set up simple indicators to track kind and magnitude of impact in select areas.

3. 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.

4. ATI should increase its efforts at influencing policy through making policy-relevant lessons learned available to donor and national institutions.

5. ATI is in a position to take an important role in joining and facilitating research-NGO collaborative activities, 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.

8. EFFICIENCY

8.1. TECHNICAL.

ATI has moved from a classic transfer of technology mode of operation to an integrated systems approach based on a given subsector or commodity (section 6). The issue of technology diffusion and dissemination is encompassed within this larger, systems focus. For this reason it is important for ATI to assess carefully where its own comparative advantage lies in a given subsector or small enterprise development activity. Knowing who else is working in the subsector and what other technical assistance is available will help this process. For ATI to encompass an entire subsector in its work is overly ambitious; however, a good overall understanding of the entire subsector is needed prior to identifying whether and where ATI's most appropriate 'fit' will be, and how it should relate to other institutions with something to contribute. ATI stands to enhance the cost effectiveness of its operations by identifying the most appropriate fit. This approach is shown in both Bolivia and Guatemala. Addressing improvements to preexisting soft and hard technologies, rather than introducing new ones, is another way to improve cost effectiveness. The metal-tipped pestle in West Africa developed by ATI, and the oil seed press for coconut and groundnut oil are good examples of this strategy.

8.2. SOCIOECONOMIC.

How efficiently is ATI identifying and addressing the needs of the small producers with whom they work? This will in part depend on appropriate selection of ATI 'fit' within a subsector, as well as identification of other institutions with whom they collaborate within the subsector. In cases reviewed, primary impact has been on the less poor producers who can take the risks involved in being the initial adopters of the technology and related practices, set the tone for later technology adoption by less advantaged members of the community. To the extent that ATI can first, identify the most appropriate activities to support within a subsector and then the technology to be developed, and second, develop ways to promote activities to the less advantaged within that subsector, the more quickly will adoption take place—assuming there is 'fit' between poorer producers and the technology being introduced. Later, as more producers become familiar with the technology and the net benefits have been

demonstrated more thoroughly at the grassroots level, the lower-income producers will begin to adopt the technology. In addition, as the volume of production of the technology expands, competition and further innovations in the designs and manufacturing often reduce the costs to more affordable levels.

ATI's activities involving women's savings clubs in Senegal for promoting the sales of stoves is a good example of efficiently reaching diverse socioeconomic strata. In this and other projects, ATI should gear marketing studies to identify the range of marketing and distribution options both up- and downstream of the central activity.

8.3. INSTITUTIONAL.

With regard to developing efficient institutional processes, there is no overall 'right' answer as to whether ATI should initiate larger or smaller start-up projects. Especially where a technology is new, such as the oil presses in Tanzania, incremental growth from a small beginning is preferable; lessons learned from this experience can then be moved to a national and even regional level over time.

Observed ATI field operations are consistent with this principle of moving incrementally from a small activity, to one or several larger activities. However, this transformation to larger projects, as is now taking place in both West and East Africa, will require a change in operational styles. Correspondingly, ATI will need more specialized input, either from staff or through short term consultancies or collaboration with groups providing specialized skills needed. The transformation involves a shift from face-to-face and fairly generalized R&D work, to more systematic and institutionalized processes that require specialized administrative, programming, technical, research, and other expertise. The operating dynamics of an efficient village-level project, in a limited geographical area, cannot be applied to a national or regional operation. ATI will thus need to carefully consider the kind of staff and staff training needed, in their move from village-based to national and regional operations in East Africa and elsewhere.

8.4. POLICY.

A major shift in R&D in African and Latin American agriculture over the past decade has been away from the Green Revolution models derived from Asia. These models are characterized by supply-driven approaches to commodity-based technology development and transfer; and a transformation of farming from small, informal sector and subsistence (food crop) oriented farming to commercial farming. The current emphasis is now on more effective and efficient ways of working with small producers, the majority of whom are and will continue to be subsistence/food crop oriented into the foreseeable future—in spite of the fact that high input commercial farming and production systems provide, under some conditions, the most efficient solution to food sufficiency. At best, both subsistence-oriented and informal sector production and distribution systems will continue to coexist with

commercial, formal sector systems in most LDCs. Within a given subsector, the two can be combined through such mechanisms as contract farming or marketing cooperatives. Existing ATI-III projects that will work with contract farmers or marketing cooperatives include the Bolivia alpaca, Honduras cashew, and Zimbabwe oilseed processing projects. Projects in the pipeline that would work with contract farmers or cooperatives of producers include the Central America lime processing, Central America coffee post-harvest processing, and Bangladesh, India, and Nepal mushroom production projects.

ATI's focus on smallholder technology (within the context of commodity or subsector systems) provides a potentially important base by which to identify, highlight and address both national and donor policies that continue to either discriminate against or enhance production and post harvest processing at and close to farmgate. Efficient smallholder performance within a given subsector will in many cases be affected by facilitatory or discriminatory policies that impact on production and related input and distribution systems. Future work by ATI on this issue, collaboratively with groups working specifically on policy analysis, will be of benefit to both ATI activities in particular, and to the overall development of activities within the subsector being examined.

8.5. RESEARCH.

Given the recent transition by ATI to a subsectoral approach it is not now possible to address the question whether this approach to smallholder and small scale enterprise development is more or less cost effective than other development. To do this, a more systematic approach is needed to determine where and how simple applied research activities directed to this issue should be developed at field level and at home office, and how feed back loops can be created between these two levels. An approach to research that focuses on both hard and soft research issues through the use of baseline data and ongoing monitoring will be a powerful tool for improving the efficiency of project operations and of discrete project activities. This approach will also increase understanding of efficiency as it relates to various inputs and outputs.

As an ancillary activity, staff training in systems-based rapid diagnostics techniques for initial baselines and to monitor minimal indicators will involve project beneficiaries in research. They are the best local experts on their own farming and enterprise activities. Additionally, rapid diagnostic exercises will familiarize all project staff with a systems-approach to basic diagnostic activities. This strategy should be explored in more detail, as ATI develops its regional plans for the oil seed subsector in East Africa and expansion of treadle pumps and stoves in West Africa.

8.6. MAJOR RECOMMENDATIONS.

1. ATI should assess carefully where its own comparative advantage lies within a given subsector and/or small enterprise development activity.

2. 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. Staff should be trained in systems-based rapid diagnostics techniques for conducting baselines and ongoing monitoring of minimal indicators.

3. ATI should gear marketing studies to identify the range of marketing and distribution options both up- and downstream of the central activity.

4. ATI will need more specialized input, either from staff or through short term consultancies or collaboration with groups providing specialized skills needed.

9. SUSTAINABILITY

9.1. TECHNICAL.

Production and maintenance of both hard and soft technologies are being addressed by ATI in conjunction with local institutions, in each country we visited. The major issue to be discussed in this section is the extent to which ongoing support of some form will be needed from ATI and other entities to assure continued production, distribution and repair of introduced technologies. Although there are no hard rules concerning introduced technology sustainability, 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.

9.2. SOCIOECONOMIC.

At the local level, sustainability of introduced technology can be achieved to the extent that local demand remains high and production, sales and repair remain within the reach of client groups. Working towards these goals will require concerted efforts with relevant local groups (e.g., formal and informal as well as public and private) that have or potentially could have interest in assuring continuance and spread of the technology. An example is the women's savings clubs in Senegal, mentioned above, which are marketing the stoves. These kinds of local groups incorporate clients of varying strata, gender, and locale; thus enhancing the marketing of stoves to diverse clients. ATI should bring in more short term technical assistance to help identify current and potential marketing outlets and strategies in both formal

and informal sectors—including ways to more effectively integrate formal and informal marketing channels.

9.3. INSTITUTIONAL.

Sustainability of ongoing technology production, improvement and other R&D are long-term goals that need to be treated differentially in different project contexts and over time in the same project. Different 'levels' within a project can attain (or not attain) sustainability at different times. For example, in Tanzania, simple maintenance procedures for grain presses is a user-level issue, the expertise of which can, for the most part, be informally transmitted amongst local users. On the other hand, applied research on improved oilseeds is an activity now associated with the project that over the long term will remain at least partly subsidized by one or several national research institutions and commercial corporations such as Cargill.

An important lesson learned out of development experience as a whole, is that technology development, adaption and introduction and related activities are labor, time and cost consuming over the long term, and that three to five year project horizons are overly-optimistic, if not naive. This lesson has become a truism in agricultural R&D. Yet, ATI staff comment that some of their critics have expected the organization to show major impacts on complex development problems in a short time frame. To address this issue, staff also think that some mechanism needs to be developed that will allow ATI to fund activities over a longer time frame, which it cannot currently do under the structure of a 5 year CA or grant. In plant breeding, for example, a 7-15 year time horizon in adaptive research is not unusual; likewise, adaptive R&D of appropriate technology within the context of a subsector needs to be similarly realistically treated. Current and future ATI activities need to be assessed and designed with such longer-range time frames in mind.

It is important within the initial assessment of a subsector, for ATI to identify opportunities to build on ongoing R&D and to lessen their own investment over time. The magnitude of time, capital and labor investments into R&D suggest that ATI should consider their comparative advantage within a subsector or in relation to particular small enterprise and also their comparative advantage amongst current and potential project activities. Priorities and levels of staff, time and capital input should be developed accordingly, as they have already begun to do through their annual workplans and review process.

An enormous amount of time is needed for the kind of work done by ATI, and the team has noted that both home office and field staff are already spread very thin. According to ATI staff, this is due to limited core financial resources and staffing constraints. Time for marketing, backstopping, working on donor and other institutional coordination, and other issues discussed in this assessment is at a premium. ATI should continue its recent efforts to focus on a more limited number of commodity subsectors, technology areas and projects and consider prioritizing both within and amongst projects. They should also consider narrowing

the focus to fewer activities within a project and/or fewer projects and a reduction in geographic spread. As resources permit, ATI should also explore the possibility of regional presence beyond project-level staff. Greater regional presence, if carefully configured, can take much of the strain off of home office staff, while improving two-way communication with field-level projects. These two options should be considered jointly; even if there were regional operations, a more narrow focus within projects and a limited number of projects may still be necessary.

9.4. POLICY.

Beyond issues of sustainability of institution and technology production, there are issues of environmental and agricultural sustainability. Environmental policy is being accorded increasing importance by donors. Environmental policy analysis is especially important in the interface of fragile lands with increased production of oilseed crops (section 7.4). Without sustainable agricultural practices, sustainable institutions and related processes will have short lives. ATI field and home office backstopping staff should expand efforts to familiarize themselves with current government, bilateral and multilateral programs to address environmental policy issues. The should become part of this ongoing dialogue, in-country and internationally.

9.5. RESEARCH.

Given the reality of differential rates of sustainability of different institutional and operational procedures within a project, and of the larger issues of environmental and agricultural sustainability, modest applied research within the context of project-operated baseline and monitoring activities described above, would be useful. This would help both home office and field staff develop common guidelines and trends associated with ATI experience to date. Application could be made to other project activities. These lessons should be shared in-country and with other R&D organizations through the mechanisms described in sections 6.5 and 7.3. Additionally, ATI field staff should be assisted to systematically incorporate the findings from the literature on institutional, project, agricultural, and environmental sustainability into its efforts to create locally sustainable institutions.

9.6. MAJOR RECOMMENDATIONS.

1. 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.

2. ATI will lessen time, capital and labor investments in promoting locally sustainable activities by considering their comparative advantage within a subsector.

3. ATI should continue its recent efforts to focus on a more limited number of commodity subsectors, technology areas, projects, and geographic distribution of activities, unless core funding is substantially increased.

4. Current and future ATI activities need to be assessed and designed with such longer-range time frames in mind.

5. ATI should bring in short term technical assistance to help identify current and potential marketing outlets and strategies in both formal and informal sectors.

6. ATI staff should familiarize themselves with current programs to address environmental policy issues and become part of this ongoing dialogue, in-country and internationally.

10. CONTINUING ASSISTANCE TO ATI

10.1. FINDINGS.

ATI's progress towards sustainability has been slowed by two major factors: (1) The much higher costs of carrying out several aspects of ATI's objectives than AID has previously recognized or acknowledged; and (2) ATI's decision to emphasize fund leveraging rather than recovering overhead in order to get projects underway in the first two years of this CA. Because of these higher costs and for programmatic reasons, ATI has been forced to seek supplements in the form of "leveraging" funds, which have proven important in convincing other organizations to provide co-financing to ATI on terms of being development partners rather than contractors.

These higher costs are principally the total costs of those activities that represent the brunt of ATI's development mission as set forth in section 4. It is not clear, however, whether ATI's costs of such activities are higher or lower than the costs of comparable activities by comparable organizations. For example, even though ATI's overhead costs might seem high (ATI's response is that the new overhead rate, at 23%, is low), overhead rates are not readily comparable among organizations. The next thoroughgoing external evaluation should answer cost-analysis questions and should set the stage with a variety of comparable groups and agreed upon measures so that the work can be done. The decision to emphasize fund leveraging proved important in making the transition from a grant-making organization to one that leverages significant funding from sources other than central AID resources and helped ensure the survival of ATI in early 1992.

Having recognized ATI's significant achievements, the next important question concerns ATI's cost-effectiveness. This question cannot be answered at this time for three reasons. First, there is a lack of adequate or appropriate measures of costs readily available

from ATI or AID reporting. Second, there is insufficient time to do cost analysis of all of ATI's activities based upon ATI files and records[9]. Third, there are no comparative measures and standards of comparison.

ATI believes that they cannot achieve sustainability to satisfy AID requirements. This is mistaken in one sense, because the way sustainability is defined by the CA should be achievable; namely, the recovery by and for ATI of about $4.8 million of administrative overhead by the end of the CA (section 5). However, some representatives from the congressional side claim that Congress has given money for ATI without any expectation of cost recovery. The matter is muddied further because neither AID nor ATI could supply a definition of sustainability apart from the narrow definition contained in the CA. The exact target should be the subject of further analysis and negotiations between ATI and AID's R&D/EID after the definitions and conceptual issues have been resolved.

Even though there is no agreed upon definition, a negative response from ATI to AID with regard to the sustainability issue may be justified. 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 organization serving the "equity" mission (defined in section 3).

The basic reason self sufficiency is inappropriate is because 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.

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. The problems of defining productivity in such an organization are well recognized in the economics literature. They are complex and difficult, even for large, profit corporations. When the next overall evaluation is done, the simple private analogy might usefully be applied to a few single product lines, such as the Senegal treadle pump and Jiko stove which are well developed, in areas where concomitant "soft" development costs to create a market or effect dissemination are well-defined. Even in such cases, one must be careful to count not only the full costs of product development but their full benefits. When such an exercise is done, the

[9]"Cost" is not the same as "expenditure" even though AID/R&D/EID may think of it as such, because they see the total ATI budget as a cost to them, except perhaps, for the so far low rate of recovery of administrative overhead.

evaluator will realize that 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, and these have been documented by ATI. The higher costs are a direct result of activities to elicit such benefits and to continue to generate projects. In addition, experience with this kind of program development serves to increase ATI's capabilities and those of host country institutions to generate more projects which elicit such benefits.

As a result, ATI is not fully positioned to continue to achieve its mandate without AID support when the current Cooperative Agreement (ATI-III) ends, 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. These are also important aspects of organizational change and learning. Indeed, for some ATI staff, these shifts are large, for others, they are more modestly adaptive and indicate a continuing evolution in a direction implied by ATI's traditional orientation to micro-enterprise.

ATI has a long way to go to achieve sustainability if one uses the definition in 5.1.2.1.6. This is revealed by ATI's continuing dependence upon leveraging funds from the U.S. Congress. ATI has relied on supplemental Congressional appropriations because the CA did not provide sufficient funding for ATI to accomplish the CA's objectives; including moving toward sustainability and influencing major development assistance institutions by diversifying project funding away from primary reliance on AID.

Critics might say that this represents traditional ATI behavior in the *old* mode, not learned or experienced behavior in the *new* mode. It takes time to change deeply ingrained modes of individual or organizational behavior, and it takes even longer to gain experience with new ways of doing business. But in reality it would not have been possible for ATI to influence the designs of projects it implemented for most other donors if it lacked the ability to provide a share of the project costs. This ability of ATI to use funds in a catalytic manner also made possible feasibility studies or seed money to demonstrate innovative technologies because most donors will not pay for such activities. Donors prefer tried and true field projects rather than riskier speculative investments.

The restoration of leveraging funds has been viewed by Congress on two occasions as necessary and appropriate for this component of U.S. foreign assistance but it seems unlikely that this exceptional pattern can continue indefinitely. Moreover, ATI has not always prevailed in its funding requests. Its core funding and leveraging fund has been just enough to allow the organization to make progress toward achieving the CA's goals for fund leveraging. ATI cannot feel secure as long as its contractual commitments from AID can be abrogated or renegotiated for political reasons at any moment, whatever its successes in

leveraging project funds and recovery of indirect costs. Thus, once again, ATI needs to accelerate progress towards diversification of its funding base if the organization is to survive in the years to come.

Assuming that the sustainability remains as a goal and AID financial assistance in some form continues, then explicit incentives for a higher degree of sustainability may be needed. Here is where the question of the "form" of assistance becomes paramount. The constancy of the level of AID assistance at $3 million per year under current arrangements provides an implicit incentive for ATI to diversify its funding base and move to more sustainable ways of doing business. An additional static $1.0 million leveraging fund on top of the $3.0 million core fund has the same effect. This has been an inducement for ATI to make some of the progress in the latter direction which is already apparent.

Funding should continue for no more than two years following the end of the current CA in the form of a grant, after which more explicit incentives should begin to be introduced. It is incumbent upon any donor to try to identify the most cost-effective ways to pursue ATI's goals and objectives (section 4). This is better done through competition than by monopolistic positions. Nor can funding agencies assume that ATI is the only organization with the capability of pursuing these goals; increasing competition is desirable. Competitive approaches are more likely to yield information on cost-effectiveness than expensive evaluations. If future resources appropriated and authorized by Congress are sufficient, then the 50% matching formula incentive cited later should be effected. If expanded resources for ATI's developmental approach are not available, then AID should provide annual grants which are gradually reduced, say, by $250,000-375,000 per year. Then AID could allocate $250,000-375,000 for an appropriately innovative or experimental project to be put out to bid. ATI, of course, would then have an opportunity to win back "its" $250,000-375,000. Such an arrangement would gradually expose ATI to increasing competition. Thus could AID assistance be provided in a new form which contains explicit incentives for ATI to move more rapidly towards sustainability.

Even if the prospects for expanded development assistance funds from Congress were far brighter than they are, grants to cover additional expenses would not address the issue of ATI's sustainability. Funding source diversification is still a key and capital is an essential part of the solution. Another way for AID to provide both the means and incentives towards sustainability would be to effect a gradual shift in the form in which additional assistance to ATI is provided—a shift in the composition of whatever increment is budgeted from expense monies to capital funds. Such a shift would permit ATI to build up a Venture Capital for Appropriate Technology (VCAT) fund and/or revolving loan type of fund to finance development projects or micro-enterprises. Administrative funding to cover recurring costs should also be included with such a capital fund.

Another alternative would be for the Congress to provide an endowment for ATI. By definition, a significant portion of any endowment must be utilized as an investment fund, else the endowment would be rapidly used up. The feasibility of this alternative in the

current climate of budget cutting to reduce the deficit, however, is open to question, as the amount of an endowment would have to be at least $50 million to provide resources to replace current levels of AID support plus resources to invest in development projects or enterprises.

The establishment of an appropriate technology foundation in the magnitude of the African Development Foundation and the Interamerican Development Foundation is another attractive alternative. Marginal producers are a cross cutting phenomena and ATI expertise could be useful globally. Certainly the issues of sustainable livelihoods with their dual focus on environmental and economic sustainability is an under funded area of international assistance. It is unfortunate that there was not time to explore this option more fully.

Both the need and opportunity for a capital fund have been amply revealed by ATI's experience over 15 years, especially the experience under ATI-II. Hyman and Sethna (1992) documented several examples of how timely injections of capital by ATI have provided critical ingredients to project success; for example, through revolving loan funds successfully serving micro-enterprises, a successful processing plant, and growth of micro-enterprises. Yet, these financial contributions have not been viewed as capital which should be recovered in some way. Under the ATI-II CA, ATI was a grant-making institution; it gave money away because that was its purpose. In any case, it would not have been allowed to utilize investment returns (net positive outflows) at its discretion through the end of the CA. Thus, ATI did not and could not obtain any return even though some of its "investments" have yielded good financial returns, as well as other benefits.

There is no chance for ATI to achieve sustainability if ATI, AID and the U.S. Congress do not allow ATI to act as an investor. Unless leveraging funds can be used as investments, they will gradually be used up rather than replenished. Even some charitable foundations have learned how to be investors via "program related investments." ATI has shown that it is capable of making good investments. Perhaps it should be encouraged and permitted to reap some of the benefits of such activity—for the sake of sustainability. However, the ability to repatriate funds or convert the currencies of many less developed countries back to U.S. dollars is often restricted by law. Turning ATI into an investor that seeks to earn surpluses also faces considerable difficulties with AID rules and regulations for uses of federal funds and the IRS is closely scrutinizing profit-making activities of not-for-profit-organizations.

10.2. MAJOR RECOMMENDATIONS.

1. Continuing AID assistance at some level, in some form, will be required.

2. ATI needs to accelerate progress towards diversification of its funding base if the organization is to survive in the years to come.

3. The CA should be revised so that it clearly states that ATI's major goals are to increase cost recovery and proportionally reduce dependence upon AID central funding.

4. Additional increased funding to ATI should be provided in two forms: (1) Half in the form of capital funds to enable ATI to assume the role of investor (funds which are only replenishable through returns on investment rather than appropriations); and (2) Half to support expenditures, on a 50 % 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-AID sources to fulfill the goals stated in ATI's mission statement and highlighted in section 3.

5. Core funding 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.

6. The CA should be revised so that it provides a clear definition of sustainability.

11. THE LEARNING SYSTEM

The process by which a development organization operates and evolves should be at least homomorphic to the development process which the organization is trying to influence; that is, it should be dynamically adaptive—what Dunn (1971) called "a process of social learning." In this era of rapid change, even the leaders of major private corporations have come to recognize this requisite—that their businesses be transformed into "learning organizations." So, too, should ATI see itself. The concept, moreover, provides an appropriate framework for reviewing several evaluative issues; especially the design and usefulness of ATI's existing system of monitoring and evaluation.

11.1. INTERNAL SUB-SYSTEM.

In preparation for drafting an amendment to the CA, ATI formulated 27 "Internal Evaluation Indicators."[10] These attempted to quantify progress towards the four major goals specified in the CA, yet only 9 of these qualify as performance evaluation measures. Most of these are straight counts: projects established, direct funding from all sources, USAID Missions supporting ATI activities, hard technologies identified, and amount ATI has spent on

[10]Although derived after "several rounds of iterations with our former technical manager at AID," these were never formally incorporated into the CA by AID. "AID decided to fold into this evaluation the issue of whether and how to change the internal evaluation indicators." (FAX memo from Eric Hyman to Peter Bearse, October 9, 1992.) It should be added that the former AID Technical Manager said that she would circulate the draft indicators to evaluation specialists within AID for comment. No comments were ever received from the AID evaluation staff. (ATI, in litt.)

R&D. These may represent either inputs or outputs, but performance is the effectiveness or efficiency with which organizations transform costly inputs into valued outputs. Indicators that qualify as performance measures are often ratios of outputs to inputs, not absolute numbers—just as businesses look to financial ratios to assess their performance, not simply to dollar levels. ATI's set of indicators includes very few ratios, such as "ratio of core funding used....to leveraged funding..." and "ratio of income received from paid services to core funding."

Actually, to count 9 of 27 may overestimate the number of actual performance indicators. Several of those included are numbers, not ratios, such as "number of conferences or workshops held..." and "number of person days of paid services of ATI expertise provided to other organizations." These, too, should be denominated on appropriate quantities to provide more meaningful indicators—indicators whose significance can be more readily interpreted to assess ATI performance comparatively or otherwise. How meaningful, for example, is a simple count of number of conferences or workshops held as a measure of ATI's dissemination performance? It does not address questions such as: How many attended? From where? What percentage (a ratio) thought the workshop was useful to them? Are conferences or workshops the most effective means of dissemination in the region(s) where they are held? Were these the only workshops on their respective topics, or were they only a percentage (a ratio) of similar workshops held that year? The internal ATI indicators also confuse inputs with outputs. With reference to the above, note that conferences are inputs and outcomes are not measured. As evaluated, they only indicate that an event was held. Many of the questions raised begin to ask about "outputs" or, similarly, what AID and others would ask about—impacts.

Another possible problem with the "internal" indicators is that they appear to have the appearance of being "external;" that is, indicators selected in the conventional evaluation research mode of the outside observer. Monitoring innovative projects calls for the stance of the participant/observer rather than that of the outsider looking in. Such a stance has also been called that of the "reflective practioner" (Schon, 1975) or "action research" (Torbert, 1992). Most probably, more staff training would be needed to monitor in this manner.

A major challenge facing ATI is how to obtain more timely, useful and systematic information from people in the field. Hyman & Sethna's (1992) draft paper from ATI-II provides many useful lessons, but it is so brief that it does not fully inform. In this draft report, at least as many questions were raised in the mind of the reader as answered. One misses some of the details that might help to capture the dynamics of how some projects worked as well as they did, or why some others failed. Details are needed concerning what was the influence of context; personalities and timing; and the assets of local actors. Though the project distillations are interesting and helpful, they are just that—distillations, with some of the essential details filtered out. When staff resources can be made available for more extensive review, there should be many eager readers among development professionals.

The finding drawn by the 1986 evaluators (Delp, et. al., 1986) with regard to field operations, however, is only half right in 1992. To quote from the report:

> ATI manages its field operations to allow for a responsive, flexible and adaptive working style by the regional teams. This has advantages, but it has the disadvantage of weakening ATI's ability to learn systematically from its achievements and mistakes.

ATI continues, and should continue, to manage field operations flexibly, adaptively and responsively. The implication drawn by the second half is mistaken as long as ATI staff and NGO field staff have been trained to participate in learning processes. These include self-evaluations, process documentation, and more generally, what others in the field call "participatory action research." Verhagen (1987) stated, "When ...development is...inspired by a philosophy that people ought to become the subject rather than the object of development...this has consequences for research methods and techniques" (and, one might add, for project monitoring in order to learn from experience).

In the ATI-I grant period, ATI staff prepared formats for self evaluation and process documentation. The result was largely unusable and insufficiently analytical or objective, and was criticized by the 1982 AID evaluation. Over the past 10 years, however, there has been a great deal of progress in the development of self-evaluation and process documentation techniques.

In Hyman and Sethna (1992) the lessons learned from each project have been compacted into a page or less and therefore it is hard to tell to what extent ATI field staff or others have been following formats established for project/process documentation. Nonetheless, ATI has prescribed formats, not only for project visits but for other reports as well. These include formats for concept papers, technical review meetings, project plans, impact monitoring framework, and project status reports (e.g., Annexes to Hyman, 1989). The substantive concern here, however, is not whether these various formats and reports suffice for AID reporting requirements but whether they are designed to help ATI learn from its experience and better manage the dynamic development processes which ATI seeks to catalyze or to advance.

ATI reporting formats are lacking from the latter perspective which is, again, development from a social learning perspective. The "outsider looking in" standpoint dominates all formats, not just the Project Visit Report. It is a pervasive presence in the forms—like that of a census taker or a social science researcher who has no understanding of what you are doing but is looking over your shoulder asking distracting questions while you are trying to get something done. A second problem is that little or no attention is paid in the report format to the capacity building aspects of ATI's projects. A third problem is that to little space is provided for input from field staff (including unexpected insights or observations that are likely to arise from their field experience).

Field reporting in terms of formal informational inputs is provided through staff visit reports and quarterly progress reports from those on-site. The assessment team was not able to review a sample of quarterly progress reports to assess whether they sufficiently capture the essential dynamics of the development processes ATI is trying to facilitate. A question ATI needs to answer for its own purposes is this outstanding question of sufficiency. Are critical details lost by field staff through recall on a quarterly basis? It is crucial that ATI reassess how information based upon field experience is recovered, analyzed and assimilated.

The potential of this is revealed by ATI's existing documentation. Two of ATI's evaluative reports, in particular, are fine reports. One has already been cited even though it has still not been finalized or released—the *Lessons Learned* paper (Hyman and Sethna, 1992). Another is "ATI's Portfolio Review, 1978 to 1990: General Patterns." The prime value of these is that they point in the right direction.

The "Portfolio Review" demonstrates the analytic usefulness of so-called "soft" or qualitative data. AID seems to place an excessive emphasis on quantitative data for monitoring and evaluation. The problem of overemphasis is threefold:

(1) Quantitative data abstracts from many of the social and contextual factors which affect development projects;

(2) Quantitative data cannot be properly analyzed or interpreted without considering a variety of qualitative factors; and....

(3) Both types represent factors which interact in the dynamics of any development process.

Thus, program and project evaluations will be more analytic and more meaningful to the extent that systematic use is made of both types of data.

> "Socio-economic emancipation of the poor, self-help, and self-help promotion form an interactive, cyclical process. How these...interrelate and mutually reinforce each other is extraordinarily contextual. The validity of the conclusions depends primarily on the capacity for integrative thinking and analysis." (Verhagen, 1987)

Much time and effort has gone into preparation of these two papers. There are several indications that data and information have had to be pulled together from many sources. There are formats, files, reports and papers, but these add up to a collection of parts, rather than a system which will best serve ATI's purposes in the new directions in which it is headed.

Measurements of time as well as money are crucial to cost accounting and to time-management, which is, in turn, crucial to effective management in an organization whose

prime assets are human resources. We do not know how much time and effort went into various reports and lack of information on time allocation is a problem with other important areas of ATI activity. ATI cannot say, how much staff time is being devoted to R&D activities (both hard and soft), project development, and compliance with AID requirements. This deficiency is not only a problem for costing and pricing ATI services but also for AID or ATI being able to define, what "sustainability" means (section 9). As noted elsewhere, revision of ATI's timesheets for recording the use of staff time could provide more useful information for time accounting and resource allocation decisions.

It is also apparent that efforts over a number of years to create an accessible computerized data base for ATI have not been successful. ATI data bases exist, but they do not appear to be user friendly, nor are they systematically maintained or updated, readily integrated or accessible for purposes of monitoring, management or evaluation. ATI staff members reported that considerable resources had been expended in the ATI-II period to create and operationalize a computerized database for a Grant Monitoring System (GMS) and a noncomputerized, standard format for a Project Monitoring and Evaluation System (PMES). The GMS proved unworkable despite several attempts to revive it because the shortage of staff resources prevented it from being updated sufficiently. Also, at the time, it did not appear as though having the information in a computerized database format offered real advantages over a quick check of written project files. The PMES, developed with major input from a consultant and at least three staff members, was abandoned because the diversity of ATI projects made it useless to rely on a written checklist of items that could fit every project. The result was already too long, yet inherently incomplete, static, and often inapplicable to particular project designs.

The "internal" standpoint which inaugurated this section is still primary, because it is difficult for any development organization which is not organized to be a learning organization to occupy the roles which ATI has been called on to perform. Current signs and capabilities at ATI, are encouraging. Under new leadership, ATI has moved away from its former, more rigidly hierarchical management style to a quite different style which appears to be more flexible, open and interactive.

The next step will be for ATI to fulfill the promise of this potential—by helping all staff members to see ATI as a learning organization. It needs to adopt modes of operation that enact the vision, and make sure that everyone involved feels part of its implementation. Another challenge will be to create a more useful kind of project information system which not only monitors and evaluates but also serves as a management information system. As shown by Hyman and Sethna (1992), ATI already has a head start, and their monitoring and evaluation capabilities appear to be better than most other major organizations in the international development community.

11.2. EXTERNAL EVALUATIVE SUB-SYSTEM.

The dominance of the external evaluative sub-system was noted earlier. ATI should first satisfy itself that it is learning what it needs to know. Then it should ask what do other organizations (including major funding sources) need to know or require ATI to provide. AID, as the prime source of funding, needs to ask to what extent do reporting requirements facilitate or impede ATI's fulfillment of its mission; especially, the mission of being a dynamic, flexible, responsive, developmental "learning" organization.

Unfortunately, AID's reporting requirements appear to impede rather than facilitate ATI. AID reporting requirements are somewhat burdensome, but not to the point of inducing the creation of an appropriate management information system. Perhaps the question is more properly put to the Congress and/or OMB. For if AID, like other federal agencies, continues to interpret the will of Congress or OMB as representing the viewpoint of an accountant with no understanding of the development process, then ATI has no choice but to continue to expend a significant portion of its budget on compliance. Precisely how "significant" cannot be computed, for ATI does not maintain a line item for "compliance," and the time records kept by ATI staff are not currently designed to identify time devoted to this function.

None of the concerns thusfar identified deny the potential validity of an external standpoint. Funding sources need to know, and deserve to know, what is being accomplished with their money. This does not imply frequent project-by-project reporting according to prescribed funder formats that have little to do with learning from experience. What is implied are evaluations of the kinds of performance that count in the development community—evaluations that can account for costs and benefits and cost-effectiveness of development programs. The two keywords are "development" and "programs." Development connotes long-term outcomes, even in the developed world of the United States where short-term horizon appears to prevail. Conventional wisdom in the field of economic development says that no innovative program can be evaluated; that is, expected to show evaluable results, inside of five years.

"Programs" connotes strategic elements—sets of projects serving a major strategic objective—not discrete projects which are only partially separable from standpoints of management or performance evaluation. ATI exhibits a number of these, as indicated earlier in our discussion of goals and objectives (section 4). Yet, AID requires frequent reporting, with a narrower focus. The final evaluation of the ATI-III CA is scheduled for 1994; the spacing of these evaluations may not be optimal.

There are at least four reasons why there was no evaluation between 1986 and 1992. First, the structure of the ATI-III CA, and the change in ATI's management represented a major reorientation of the organization that needed time to work before evaluation. Second, it would not have been very useful to evaluate the old mode of operations under ATI-II. Many of these projects were not finishing up until 1992 because a no-cost extension had been

granted to allow them sufficient time. Third, the AID Technical Manager changed twice. Finally, AID stated that it did not have the funds to do an evaluation during this time.

The intent of these observations is to emphasis that thoroughgoing performance evaluations should be carried out by independent investigators approximately every five years. The last evaluation was completed in 1986, the next is scheduled to be completed in 1994—eight years following the previous (This mid-term assessment is not an evaluation).

An implication for ATI is that they should continue to compile complete "baseline" data—both quantitative and qualitative—and then repeat data collection every five years for a total of four rounds (over 15 years) of data collection. These primary data would be supplemented by information derived from systematic process documentation, primarily in the field by field staff. The process documentation should be more detailed. Such information, if properly coded into categorical data, can figure in performance analysis and provide essential descriptions of contexts and processes.

11.3. COLLABORATIVE SUB-SYSTEM.

Between "internal" and "external" there is a large arena of potential relationships of ATI with other organizations in the development community. This is the (potentially) collaborative arena. This is the arena for much of what ATI strives to accomplish, such as technology diffusion, dissemination, replication, project co-management and technical assistance. It also provides considerable scope for learning about innovative approaches to development and what works—where, how and with whom.

There are at least five AT organizations in Western Europe, plus organizations in India, Indonesia and other developing countries. ATI's interaction with these have been limited. We recommend that ATI establish more collaborative relationships and partnerships with other organizations in the development community, for project funding, dissemination, replication, information sharing and joint learning. Also, ATI should establish, or become part of and promote, a worldwide electronic network for AT information sharing, e-mail and other communications.

ATI recognizes that increased collaborative relationships would be desirable and has been forging extensive, collaborative linkages in the ANSAB Biotechnology Network and will be doing so in the Africa Regional Oils Project (attachment 3). Feasibility studies in the venture capital area call for collaborative relationships with formal financial institutions and development organizations whose micro-enterprise financial capabilities complement those of ATI.

Nevertheless, ATI may not always be in touch with public or private organizations in some countries which might assist or reinforce the initiatives that ATI is trying to advance. The ANSAB network does not mention the Department of Science and Technology,

Technology Assistance Program Initiative and Philippine USAID programs, nor does it mention the United Nations Private Sector Advisory Committee or other relevant organizations in Indonesia. Potential interorganizational complimentarities may be important in several other areas of ATI's mission, especially to the extent that ATI pursues projects as part of regional strategies or programs. ATI should also look to the potential of strategic alliances with large corporations that might be supportive of small scale enterprise, as it has with Cargill in Tanzania; Victorias Milling Company in Indonesia.

First and foremost, ATI needs to be able to improve two-way communications with its field operations. The same capability, once in place, can help effect a learning system involving other organizations worldwide. The key is telecommunications linked to improved data processing capabilities—on-line and real-time. As for monitoring, reporting and evaluations, ATI has expended considerable resources on dissemination and replication activities. There is reason to question the cost-effectiveness of these documentation efforts and to consider the need to innovate beyond ATI's paper-based and conventional modes of dissemination—papers, publications, newsletters, conferences and workshops. Even if ATI's participation in some conferences has influenced others, there have been conferences covering topics on which ATI has made major contributions (e.g., oil-seed technology) to which ATI has not been invited, presumably because ATI has not been sufficiently tied into various networks.

In regard to our second recommendation, ATI formerly (1983-1991) participated in the SATIS (Socially Appropriate Technology Information System). It is not clear to what extent ATI utilized this network, especially to what extent it served a learning function—with ATI both putting information in and getting information out. ATI participation was terminated because ATI was dissatisfied with its performance. ATI would like to be able to participate in computer networking but would need some new equipment to do so. A request to be able to purchase new computers was put forth to ATI some months ago, but approval has taken a very long time.

Another area of collaboration where ATI should be doing much more, is to forge mutually productive relationships with governments. Local or national authorities in countries where the national government has a decentralized approach to economic development are logical partners for an organization which takes a grassroots approach. Linkages with local governments could also fit AID's agenda in ways that overlap the Agency's Democracy Project.

ATI has a preference for working with NGOs because, "local governments often are inefficient, lack capacity, are politicized and, in some cases, corrupt."[11] Yet, economic development is fundamentally local and NGOs are not an adequate or even appropriate substitute for governmental and "politicized" processes. Localized approaches to

[11]Andrew Maguire, President, ATI (pers. comm.).

democratization and economic development are complementary and mutually supportive. ATI could enhance itself as a change agent/advocate on behalf of the poor and disempowered by seeking opportunities to work with local authorities.

ATI's information system needs to both facilitate and reflect more of the dynamics of the development processes which ATI seeks to promote. Some of the formats cited earlier provide room for staff to describe problems with projects. What about opportunities? The Quarterly Progress Report on the Village Oil Press Project (SIDO), cites a number of received visits from representatives of various organizations. There is no indication, though, of the extent to which these visits suggested opportunities for ATI and needed follow-up, either in Washington or in the field. Other sections of the SIDO report cite a "Problem Encountered" and present materials which imply other problems; yet, the field staff fail to cite the extent to which these problems can be viewed as opportunities. ATI will be most innovative and effective to the degree that every staff member sees their role as being opportunity seeking and opportunity responsive; that is, entrepreneurial. This, along with revised modes of communications, process documentation and time-accounting, may take some time for staff development, but the time would be well spent.

Program monitoring, evaluation, networking and management information systems in the development field lag behind advances in both social science and information systems. This qualifier, however, does not absolve ATI from striving to meet the higher standards as an "innovative, experimental" learning organization following its own mission. At the same time, AID should see ATI as an opportunity to advance the state of the art since it is mandated to be innovative and has flexibility not available to AID. AID should accentuate the positive and urge innovative approaches rather than applying old standards. Perhaps ATI should receive an additional grant for this purpose so that both AID and ATI could learn through innovation. There is only one staff member in ATI's evaluation unit (down from 3 because of funding cuts). But adding staff is only part of the answer; training and tools must be developed so that each member of the organization is more capable of learning on the job.

11.4. MAJOR RECOMMENDATIONS.

1. 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.

2. ATI should establish, or become part of and promote, a worldwide electronic network for AT information sharing, e-mail and other communications.

3. ATI should also look to the potential of strategic alliances with large corporations that might be supportive of small scale enterprise.

4. Thoroughgoing performance evaluations should be carried out by independent investigators approximately every five years.

5. ATI should adopt modes of operation that enact the learning organization vision, and make sure that everyone involved feels part of its implementation.

6. ATI should create a project information system which not only monitors and evaluates but also serves as a management information system.

7. ATI should modify program and project evaluations to be more analytic and meaningful to the extent that systematic use is made of both quantitative and qualitative types of data.

8. ATI should revise their timesheets for recording the use of staff time to provide more useful information for time accounting and resource allocation decisions.

9. ATI continues, and should continue, to manage field operations flexibly.

12. CONCLUSIONS.

This assessment affirms the correctness and significance of the equity with efficiency agenda which focuses sustained attention on marginal populations in developing countries. It also affirms ATI's dedication and effectiveness in addressing that agenda in evolving and increasingly significant ways. This conclusion is based on observation and on the testimony of those local organizations which receive ATI assistance. These organizations feel largely responsible to the beneficiaries and client groups they serve rather than to ATI and beyond ATI up the donor chain. It is perhaps this sense of priorities, shared by ATI staff responsibility down rather than up the donor chain that gains for ATI the enviable reputation it enjoys in the field.

ATI is not the only American organization with these priorities and resulting high esteem, but its continuing ability to plow new ground and open new avenues for impact make it a particular asset in the tool kit of U.S. government funded development assistance. Its subsector approach with multiple interventions along the value added chain is the culmination of much past activity and consequently a solidly based new initiative with major impact potential.

ATI's successes with leveraging activities, while not yet resulting in the targeted level of cost recovery, have served to place it at a here-to-fore unachieved level of visibility among major international donors. This leveraging has also served the client groups ATI was established to serve. This visibility being seen as a player is a necessary step in major

funding diversification. A UNDP resident representative noted that his discovery of ATI renewed his hope about the possibilities for the multilateral agencies to reach marginal populations. He pointed out that development agendas are increasingly set by coalitions of 'northern' governments and are politically targeted, and less concerned about these populations. At the same time, the specialized agencies are becoming more specialized and thus less flexible and irrelevant small producers who need a variety of assistance. ATI with its private sector orientation, entrepreneurial approach and skills along a wide spectrum of intervention possibilities was the right vehicle to complement UNDP funding because it also had small, flexible amounts of money to fill in gaps beyond the capability of UNDP.

Early in this report the question was asked rhetorically about the appropriateness and necessity of self-sufficiency for ATI. We do not believe it is appropriate, necessary or possible. Increased independence from any single funding source is desirable, however, and ATI is committed to that path as indicated by its many initiatives under ATI-III. The concerns revolve around how fast, at what cost to staff time, in what sequence, and for what substantive purposes. These are all appropriate questions, and reasonable people will disagree on appropriate answers.

Awareness of the usefulness of bottom-up development approaches, sustainable livelihood issues and people centered development has permeated the development community. Resources for effecting these approaches and systems for funneling resources for these purposes have lagged behind. Too much time and energy have been expended on intramural activity between American donor and implementor at a cost to development impact.

It is our hope that the domestic policy values being articulated by this incoming Clinton administration will echo in the foreign assistance arena and that a greatly increased magnitude of resources and new methods for delivering them will be focused on the agenda which ATI encompasses.

13. APPENDIX

13.1. PEOPLE CONSULTED.

13.1.1. People consulted at ATI and USAID.

ATI:

Milton Barnett	Advisory Council Member
Valeria Budinich*[12]	VP, Operations
Richard Bowman	Sr. Program Dev. Officer, Latin America Region
John W. Croucher	Prog. Dev. Director, Asia Region
Jeanne Downing*	Program Dev. Director, Africa Region
Dieter Fischer	Prog. Dev. Officer, Africa Region
Winifred B. Hill*	Dir. Finance & Administration
Eric Hyman*	Evaluation Economist, Prog. Evaluation
K. R. Locklin*	Senior Advisor & Director, Env. Invest. & Bus. Dev.
Carlos R. Lola*	Latin America, Program Dev. Director
Andrew Maguire*	President
Stephen Romanoff	Program Advisor, Program Evaluation
Sandra Rowland	Prog. Dev. Officer, Latin America Region
Lystia Santosa	Manager, Budget & Accounting
Lisa Stosch	Coordinator, Prog. Manag. Unit
Susan Swift	Director of Communications, Inst. Rel. & Com.

USAID:

Frank Alejandro*	EO, PO/AE
Andrea Bauman	Project Officer, R&D/EID/USAID (retired)
John W. Bierke*	PO
Nina Bowen	Africa Coordinator, Office of Women in Development, USAID
Melanie Bacha	Former Project Manager on ATI
Roberto Castro*	Project Manager, R&D/EID/RDM
Rose Marie Depp*	LEG
Dave Johnston*	EID, R&D/EID
Tom Kellerman*	Chief, PO/AE
C.C. Lu	Project manater, R&D/EID
Elizabeth Martella	Deputry Program Officer, USAID Mission Nairobi

[12]Those with '*' attended a debriefing on 22 October 1992 in Washington, D. C.

Tom Mehen*	EID R&D/EID
Tony Pryor	Program Officer, AFR/TR/ANR/NR/USAID
Ronnie Smith	Contact Officer
Julius Whiticore	Director, USAID
Vironica G. Smith*	Negotiator FA/OP/B/AEP

Other:

Thomas H. Fox	Director, Center for International Development and Environment, World Resources Institute
Henry R. Norman	President, Volunteers in Technical Assistance
David Richards	World Resources Institute
Lori Ann Thrupp	Director of Sustainable Agriculture, World Resources Institute

13.1.2. People consulted in Indonesia.

Mr. Darus, P. T. Bahana (Indonesian state-owned venture capital firm)
Hoedhino Kadarisman, Chairman, UNDP Private Sector Advisory Council
Harry Haryanto, Executive Director of Council
Sesuruh Sugarda, President, Cemantech Utama Indonesia

13.1.3. People consulted in Bolivia.

UNDP/UNCDF:

Gonzalo Perez de Castillo	UN Resident Representative
Rosina Herweijer	Deputy Director for Program, UNDP
Helena Lindermark	Field Implementation Officier, UNCDF

USAID/Bolivia:

Oscar Antesana	Economist
William Baucom	Director, Office of Agriculture and Rural Development
Jerry Harrison Burns	Project Officier, Private Sector Office
Charles Hash	Director, Chaparre Project/Deputy Director of Office of Agriculture and Rural Development
Hernan Munoz	Project Officier, Office of Agriculture and Rural Development/ Coordinator of Small Ruminant/CRSP Project

ATI/AIGACAA Bolivia:

Gerardo Apasa	Extensionist
Feliz Apasa	Extensionist
Leonor Ayma	Agronomist
Hugo Cachaga	Extensionist
Dr. Hilarion Choque	Veterinarian
Froilan Chuquimia	Extensionist
Bill Gschwend	International Project Director
Romulo Ingala	Extensionist
Maria Estel Ibanez	Management Asst.
Dr. Beningo Paredes	Veterinarian
Serapio Ramos	Agronomist
Luis Ticona	National Project Director

Beneficiaries and AIGACAA members in 10 sites

13.1.4. People consulted in Guatemala.

USAID/Guatemala:

Thomas R. Delaney	Program Direction and Support
Elizabeth Warfield	Chief, Trade and Investment Officer

Other:

Gustavo Bucaro	Program Officier, FUNDAP
Jorge Gandara	General Manager, FUNDAP
Roberto Gutierrez	President & Co-Founder FUNDAP
Walter Hillerman	Project Officer, FUNDAP
Joaquin Alfonso Molina	Gerente General, INNOVA
Jorge Valverde Pena	Mechanical Engineer
P.C. Armando Poroj	Gerente, Cooperativa de Produccion Integral
Santos Rosales	Program Officier, FUNDAP

Groups of beneficiaries in 6 sites

Board of Directors	INNOVA

13.1.5. People consulted in Senegal.

USAID/Senegal:

Maryse Fall	David Delgado
Francois Faye	Seydou Cisse
Mamadou Kane	Julius Coles
Lance Jepson	Lisa Franchette
Phil Jones	David Arbe

Others:

Ed Perry	ATI Project Manager
Ibrahima Diaby	Project Deputy Manager for Stoves
Mory Thiaw	Project Pumps Technician
Cheikh Gueye	Project Stoves Technician
Mme. Mboup	Project Stoves Extension Agent
Pape Thiam	Stove seller at Credit Foncier
Madame Ndiaye	Stove seller
Cheikh Thiam	Stove manufacturer at Credit Foncier
Ruby Sandhu	UNIFEM
Lowell Fuglie	Church World Services
Nicholas Rofe	ACEP
Babacar Tine	Owner of a workshop in Thies
Joseph Dione	President of the pottery firm at Soumbedioune

13.1.6. People consulted in Tanzania.

William Baynitt	USAID/Tanzania
Geoffrey Burrell	TechnoServe, Arusha
David Kaggi	Selous Conservation Programme, GTZ
E.M. Ngaiza	Director-General, CAMARTEC
Erwin Protzen	Senior Engineer, CAMARTEC
Lynn Schlueter	Project Director, Village Oil Press Project
Joel Strauss	USAID/Tanzania
E.B. Toroka	Small Industries Development Organization

13.2. ACRONYMS.

AID	Agency for International Development
AIGACAA	Asociacion Integral de Ganaderos de Camelidos de los Andes Altos
AT	Appropriate Technology
ATI	Appropriate Technologies International
CA	Cooperative Agreement
CEICADAR	Centro de Enseñanza, Investigacion y Capacitacion para el Desarrollo Agricola Regional
CFC	Combined Federal Campaign
EID	Economic Institutions and Development
FAO	Food and Agriculture Organization (UN)
FUNDAP	Foundation for the Integrated Develoment of Socioeconomic Programs, Guatemala.
G&O	goals and objectives
GIS	Geographic Information System
ICRAF	International Centre for Research in Agroforestry
IDRC	International Development Research Centre
IFAD	International Fund for Agricultural Development
IITA	International Institute for Tropical Agriculture
ILCA	International Livestock Centre for Africa
ILRAD	International Laboratory for Research on Animal Diseases
IQC	indefinite quantity contract
LDC	Less-developed country
NGO	non-governmental organization
OMB	Office of Management and Budget
OP	Office of Procurement
PVO	private voluntary organization
R&D	research and development
RFP	request for proposals
SATIS	Socially Appropriate Technology Information System
SIDO	Small Industries Development Organization (Tanzania)
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Program
UNEP	United Nations Environmental Programme
USDA	United States Department of Agriculture
VCAT	Venture Capital for Appropriate Technology

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13.4. PROPOSAL MATRIX

A. T. International, Inc.
PROPOSAL MATRIX
As of September, 14, 1992

Submitted Projects*	Funding Source	Geographic Area	Dates of Activity	Total Funding	Administrative Cost Recovery				
					Personnel Costs	Other Direct Costs	Indirect Cost Recovery	Management Fees	Total ACR
Small Scale Irrigation	AID/Mali	AF-Mali	4/1/92-3/31/93	499,936	0	0	0	0	0
Small Scale Agri. Biotech.	Sasakawa	AS-Vietnam	1992	40,012	12,213	1,500	8,794	1,905	24,412
Food & Shelter Sectors	AID/PVO	AS-Russia	8/1/92-7/31/94	750,000	88,043	0	173,077	0	261,120
Small Scale Oil Processing	AID	AF-Zambia	10/1/92-9/30/96	3,386,664	116,977	21,982	614,579	0	753,538
Agribusiness Dev. Project	AID/Ind.	AS-Indonesia	10/1/92-9/30/95	1,335,351	210,398	33,678	308,158	0	552,234
Venture Capital	UNIFEM	AS-Thailand	5/1/92	250,000	0	0	0	0	0
Lab to land small scale agri. biotech for Asia	ADB	AS-Regions	1/93-6/95	328,485	54,041	0	61,424	0	115,465
Lab to land application of mushroom biotech.	ESCAP	AS-Regions	1/93-1/96	421,716	0	0	0	48,516	48,516
Comercial/Dissemination of Linares Pump	Thrasher	AS-Nepal		92,491	19,440	0	6,050	0	25,490
Greenhouse Gas Reduction	Rockefeller			78,750	52,700	750	0	3,750	57,200
Biotech - Kapok	Rockefeller	AS-Indonesia		98,642	11,592	0	4,253	0	15,845
GRAND TOTAL				7,282,047	565,404	57,910	1,176,335	54,171	1,853,820

*Projects submitted between 12/91 and 9/92.

14. LIST OF ATTACHMENTS.

14.1. *Scope of Work: Midterm Evaluation of the Appropriate Technology International (ATI) Project.* memo. 20 pages.

14.2. ATI information concerning fund leveraging.

14.3. ANSAB Biotechnology Network.

14.4. Biographical Information on Assessment Evaluators.

ATTACHMENT I
PIO/T No.

SCOPE OF WORK

Midterm Evaluation of the

APPROPRIATE TECHNOLOGY INTERNATIONAL (ATI) PROJECT

A. INTRODUCTION AND PURPOSE

Overview:

This mid-term evaluation will provide needed analytical information to assess ATI's performance and strategies during the first half of the ATI-III Cooperative Agreement. It will address the critical areas of relevance, effectiveness, efficiency, potential for impact, sustainability of ATI's activities and the degree to which ATI is influencing the policies and programs of other institutions by introducing pattern-setting models for development. The evaluation should also provide information on key issues of concern to A.I.D. to determine whether changes in the Cooperative Agreement (CA) document are needed.

Purpose:

The purpose of this interim assessment of ATI, which is now in its third year of the current five year Cooperative Agreement (CA), is to assess the appropriateness of making mid-course adjustments in the CA and implementation modes, and derive pertinent conclusions and recommendations which may prove useful in furthering the mandate of ATI to promote the commercialization of technologies that are economically viable and environmentally sustainable and provide benefits to small-scale producers.

The evaluation will give special emphasis to program and financial strategies relevant to the first of the three strategic objectives listed in the proposed internal evaluation indicators, which were developed by ATI and R&D/EID:

- (1) Develop greater operational flexibility by expanding and diversifying the project funding base away from dependence on AID core funding;

- (2) Strengthen ATI's capacity to demonstrate the beneficial impact, utility and cost effectiveness of development strategies; incorporating commercially viable and economically and environmentally sustainable appropriate technologies for less developed countries; and,

- (3) Facilitate the wider adoption of these development strategies through diffusion and replication of the outcomes of ATI projects.

The mid-term evaluation will devote particular attention to the parts of the CA that are increasingly at variance with ATI's approved annual workplans and budgets as well as its program and financial experience. It is not intended to duplicate the audit of the books and records of the organization that is performed on a yearly basis by an independent accounting firm. The evaluation will not involve activities or subprojects under the initial grant (ATI-I) or the earlier CA (ATI-II), except for those subprojects that served as a model or basis of replication for ATI-III subprojects (e.g., the Guatemalan Wool subproject).

B. ACTIVITY TO BE EVALUATED

Project Title:	Appropriate Technology International
Project No.:	936-5455
Cooperative Agreement No.	DHR-5455-A-00-9082-00
Life of Project Funding:	$15.0 million
Review Dates:	5/1/92-6/30/92
Type of Review:	Midterm

C. BACKGROUND

ATI was created by the U.S. Congress in 1977 as a centerpiece of the New Directions Legislation in 1976. Its primary mandate was to develop and spread productive technologies appropriate for low-income farmers and entrepreneurs.

ATI first received support from A.I.D. through a $1 million planning grant in January of 1977. Subsequently, ATI received a $20 million grant for operations during the period August 31, 1978 to September 30, 1983 (ATI-I). The ATI-I Grant was subsequently extended until September 30, 1986 to allow for the closing of all subprojects. The objectives, structure, and activities of the organization under ATI-I were substantially different from those of the subsequent two cooperative agreements. ATI then had three operating departments -- AT Extension Services, Policy and Communication Services, and Business and Technology Services. Institution building in LDCs was a major focus of the organization at that time.

ATI's first Cooperative Agreement with A.I.D. (ATI-II) provided $24,873,462 in funding over the period September 30, 1983 to September 30, 1989 for both core support and financial assistance programs. ATI-II was subsequently extended to allow for the completion of subgrants by September 30, 1992. ATI's mandate under ATI-II was to serve as an applied research organization carrying out demonstration projects. Three priority technical areas were specified: equipment and support for small farms,

agricultural product processing and the use of agricultural wastes, and the development and use of local mineral resources.

The second Cooperative Agreement (CA) between ATI and the Research and Development Bureau (R&D) of A.I.D. (ATI-III) is now at its midpoint. ATI-III provides a total of $15 million in funding over the period September 30, 1989 to September 29, 1994, which can be used for either core support or financial assistance purposes.

The purpose of ATI-III is "to provide support to further strengthen ATI's capacity to demonstrate the beneficial impact, utility, and cost-effectiveness of development strategies employing commercially viable and economically sustainable appropriate technologies through projects funded by A.I.D. and other donors. The project will facilitate the wider adoption of these development strategies by governments and policy makers through diffusion and replication of the results/findings of demonstration projects aimed at small enterprises."

ATI-III represents a fundamental change from ATI-II. The second CA is based on a new strategy "under which ATI will increase its efforts to make its capabilities available to donors, foreign governments, and A.I.D. missions and bureaus." ATI-III "will provide financing and incentives for ATI to reorient its program away from that of an A.I.D. centrally financed, supply driven subgrantmaking organization which utilizes A.I.D.'s funds to implement technology subprojects, to a mixed supply- and demand-driven program that leverages A.I.D.'s central funds to attract other donor funding."

ATI-III is designed to provide the organization with considerable flexibility in this time of transition from being a donor organization that makes grants to NGOs abroad to an organization that leverages financial resources for program activities implemented by ATI itself or its project partners in LDCs. Because this CA expressly encourages ATI to leverage A.I.D. and non-A.I.D. sources of funding, ATI can use core funds from A.I.D./R&D/EID to prepare project proposals and contract bids for activities that further the general purposes of the agreement. Subprojects may be funded by CA funds and/or outside sources of funds.

In addition, on July 1, 1991, ATI received a $1 million grant from A.I.D. for a Leveraging Fund that "provides seed financing for subgrants that expand the non-core base of support for ATI's program under the Cooperative Agreement". The Leveraging Fund was a result of ATI's early experience under ATI-III that it is often necessary to provide some cost sharing in order to obtain commitments from other donors.

To operationalize the mandate of ATI-III, the organization prepared a Five-Year Plan and a Strategy document in November of

1990. This Five-Year Plan was reviewed and officially approved by R&D/EID. These documents are the base for yearly work plans which are reviewed and approved by A.I.D./R&D/EID/IDM.

ATI's Five-Year Plan lists targets for expanding the program size:

(1) "Obtain at least 50% of direct program funding from sources other than the Cooperative Agreement with A.I.D./R&D by the end of 1995." Direct program funding refers to revenues that can be used for either financial assistance or core operating expenses.

(2) "Increase the funding base for promotion of appropriate technologies." Yearly targets for cumulative commitments for program funding are specified in the Plan and refer to amounts in excess of A.I.D/R&D/EID core funds.

In the Plan, ATI's new management also reoriented ATI's program away from an emphasis on small demonstration subprojects toward scaled-up subprojects that have the potential to achieve favorable impacts on a larger number of beneficiaries. The Five-Year Plan was updated in 1991 to move forward some of the milestones originally specified for the later years and to serve as a better tool for communication of ATI's program. The revised plan was approved by A.I.D./R&D/EID as part of the Annual Workplan for 1992.

D. STATEMENT OF WORK

The evaluation team will address programmatic and financial issues relating to the implementation of the ATI project. In doing so, it will examine the appropriateness of targets and outputs specified in the ATI-III Cooperative Agreement, and the approved Five-year Plan and Annual Workplans. The programmatic and financial issues cited in this SOW are considered of equal importance. The programmatic aspects are discussed in section D.1 and the financial issues in section D.2.

The midterm evaluation will involve field travel to selected ATI-III subprojects in Bolivia, Senegal, Tanzania and to the ATI-II Guatemala Wool subproject, which served as a model for the ATI-III Bolivia Alpaca subproject.

1. PROGRAMMATIC OUTPUTS FOR EVALUATION

a) Areas for Evaluation

The evaluation team shall address the following areas critical to ATI's success: the project's relevance, effectiveness, efficiency, potential for impact and sustainability. The key

questions to be addressed in each area are listed below. Those questions shall relate to the programmatic outputs as stated in both the CA and Five-Year Plan.

i. Relevance:

- How has ATI evolved to address the most critical issues regarding technology diffusion and replication to low income groups? (Answering this question entails considering both the needs of low-income groups in LDCs and the issues that are dominant in technology transfer as they relate to the CA's purpose).

- Is ATI working in an important niche in the development assistance community? (This question encompasses not only the relevance but the institution's success in attracting resources for development assistance to LDCs).

- How do ATI's objectives, strategies and activities fit within those of A.I.D.? (To answer this question, RD/EID will arrange interviews with key ATI and A.I.D. representatives).

ii. Effectiveness:

- Is ATI achieving satisfactory progress toward its stated objectives? (ATI's current Cooperative Agreement, approved Five-Year Plan and Annual Workplans will be the primary points of reference to address this question).

- To what degree are ATI's various modes of operation achieving the desired results? For example, should ATI emphasize the use of its own field staff in executing projects or work through indigenous implementing organizations in LDCs?

iii. Efficiency

- Would it be more cost effective for ATI to seek donor support for a smaller number of larger projects? Are there ways in which ATI could increase the cost effectiveness of its service delivery? (The evaluation team shall assess the cost effectiveness of ATI's approach to development assistance).

- What is an appropriate balance between technology diffusion and dissemination activities and an integrated systems focus approach given the limited core funding received by ATI? (The team must consider how the limitations of ATI's core funding constrains the project's ability to strike an effective balance).

iv. Potential for Impact

- How well do the various subprojects under ATI-III relate to the overall strategies of the organization? (The team will examine how the subprojects originated; the choice of subsectors, technologies, and target beneficiaries; and the quality of the planning and design process, and assess progress in undertaking the field activities and their potential for having a significant impact).

- Is ATI's program making a pattern-setting contribution in the dissemination of appropriate technologies for small-scale producers?

- Which of the project's modes of operation are achieving desired results and which, if any, are generally ineffective? (ATI employs several modes of long and short--term collaboration in implementing development/technology transfer activities).

- What progress has ATI made towards meeting proposed targets? (The team will assess if these targets are realistic or they need to be revised).

- To what extent do ATI's technologies have the potential for increasing incomes or improving the quality of life for small farmers and other project beneficiaries?

v. Sustainability

- What steps has ATI taken to assure the sustainability of its initiatives after the subprojects end and the larger questions of the economic, commercial, social, and environmental sustainability of the activities of small-scale producers? (This question will relate to ATI's strategy and the financial issues the evaluation team will address).

- Should ATI become more involved in strengthening the capacity of host country institutions for transferring improved technologies targeted to low income groups? Are ATI's capacity building efforts in Guatemala, Bolivia, Tanzania and Senegal effective? How effective are the short-term field support efforts and other project activities geared to strengthen LDC institutional capacity for technology transfer?

- To what extent could ATI achieve its mandate without AID support at the end of the current Cooperative Agreement? Should AID continue its support to ATI, if so, what form should this assistance take?

- What steps could be taken to continue ATI's activities in the event of declining A.I.D. funding in real terms?

b) Cooperative Agreement

The ATI-III Cooperative Agreement lists some very specific output targets for evaluation. It states that, "at a minimum ATI will disseminate 76 technologies in 76 separate projects with funds that pass directly through ATI's financial records. Of these projects, 75% will be innovative technologies and 25% will be already tested technologies (replication)" [ATI's CA, Att. 2, p.7)]. It then continues:

(1) In financial assistance projects, ATI will create one workplace (equivalent to full-time employment) for every $2,500 granted from A.I.D. core funds and from non-core funds passing directly through ATI's books.

(2) For every $2,500 granted in financial assistance, ATI will increase the incomes of 27 men and women.

(3) For every $12,500 granted in financial assistance, ATI will generate approximately one new enterprise. Five percent of the total will be small enterprises employing 20-25 men and women and 95% will be micro-enterprises.

(4) ATI will maintain gender-disaggregated data on all its projects as well as data on the value added by each project. Specific project targets for this output will be established during the first year of the Cooperative Agreement and will be specified thereafter in the Annual Workplan.

(5) For every $50,000 expended on research and development, ATI will produce one new technology that has been designed or adapted for particular circumstances in a developing country, which is ready to use in a demonstration project. A total of 57 such technologies will be developed over the five-year period.

(6) For every $10,000 expended on R&D modifications on proven ATI hard technology packages for replication purposes, ATI will produce a technology package ready for replication in one or more additional sites for a total of 19 such packages over the five-year period.

(7) For every $5,000 expended on technology specific policy analysis, ATI will produce one policy impact assessment related to a specific technology dissemination project, for a total of 30 policy impact assessments over the five-year period.

(8) For every $6,000 expended on institution building, at least one on-the-job training course will be provided for 3 to 10 selected staff of ATI subproject organizations for a total of 30 such training courses upgrading the institutional

management or technical advisory skills of between 90 and 300 subproject staff over the five-year period (ATI-III, Att 2, pp. 8-9).

The ATI-III CA also devotes considerable attention to specifications for ATI's subproject evaluations, requiring at a minimum a:

a. Description of innovative element(s)
b. Technical assessment of innovative element(s)
c. Profitability assessment of innovative element(s)
d. Replicability of the innovative element(s) ...
e. Description of ATI's subproject-specific replication strategy, including a time-phased plan for ATI's actions
f. Lessons learned
g. Sustainability

These programmatic outputs are difficult and expensive to measure. Furthermore, these highly specific programmatic targets may be in conflict with main ATI's higher-level objective of greater funding diversification and technology diffusion. In ATI's fund leveraging mode of operation, the number, size, and composition of subprojects will significantly depend on what donors are willing to fund. In addition, ATI is only infrequently involved in R&D because it emphasizes commercialization of proven technologies instead. Most sources of financial assistance that can be leveraged by ATI provide funds for technology dissemination, not research and development. When technologies are ready for replication, ATI will place a high priority on replication; however, an arbitrary expenditure of a certain amount of money does not necessarily result in readiness for replication because it depends on what the status of the technology was originally and the conditions at other sites.

Furthermore, the definition of a "technology package" is unclear. It is not also clear what constitutes a technology specific policy analysis. The degree to which ATI will be involved in policy analysis depends on the interest of donors in having a small PVO conduct policy analysis and this interest may be low. ATI is not emphasizing institution building as a major part of its program.

The CA also requires ATI to "make an effort to discover and evaluate replications of the innovative element(s) of successful demonstration subprojects in situations where replication would not be routinely reported to ATI, particularly where replication is spontaneous or results from information dissemination. Once discovered, each replication of ATI's demonstration subprojects will be the subject of a short, simple evaluation. The evaluation will include, but not be limited to, the following:

a. Description of innovative element(s)
b. ATI's demonstration subproject title(s) and number(s)
c. Implementing organization(s)
d. Number of applications of innovative element(s)
e. Location and environment of replication
f. Replication processes and agents used
g. Description of techniques used to market innovative element(s)
h. Description of financing methods used for replication
i. Narrative description of replication process.

ATI has been reporting progress with respect to "discovering and enhancing replications of innovative elements of successful demonstration subprojects," but it is not clear that this reporting is practical and feasible.

Based on the above considerations, the midterm evaluation will assess whether such programmatic outputs should be retained in the CA as quantified targets and if so, what levels would be realistic. A.I.D./R&D/EID and ATI have held discussions on amending sections of pages 7-9 and 15-16 of the CA Program Description to make the performance targets and outputs to be evaluated conform more closely with ATI's revised strategy. It has been agreed that the programmatic outputs of ATI would focus on technology diffusion and replication through fewer, larger subprojects. The evaluation team shall review the draft language worked out by ATI and A.I.D/R&D/EID and make a determination whether it is appropriate and sufficient.

c) Five-Year Plan:

ATI's Five-Year Plan, which was approved by R&D/EID in 1991, established four priority program areas: (1) technology commercialization, (2) commodity sector development, (3) financial mechanisms for small- and micro-enterprise development, and (4) sustainable livelihoods for fragile lands and resource management. It also contained a timetable for leveraging funding for major projects under each of these areas.

ATI then began developing detailed strategy papers for each of these program areas. The first, which is on environment and natural resource projects, was completed in January of 1992. The others will be available during the remaining of 1992.

In 1991, ATI began reforming its annual workplan process to focus more sharply on a smaller set of program initiatives and to allocate limited staff time in a more systematic way. A weighted ranking system was used that year to reduce from 55 proposed initiatives to fifteen. These initiatives were refined and reduced to fourteen in 1992.

The 1992 Workplan also instituted a system for tracking changes in the status of subprojects in the pipeline. For each of the major initiatives, ATI specified co-funders that were approached and the expected levels of direct funding, instrumental leveraging and funding requested from ATI.

Based on those considerations, the evaluation team shall examine ATI's new program strategies, its portfolio, and the pipeline of subprojects under development to determine whether the organization is meeting the requirements of the CA, Five-Year Plan, and approved Annual Workplans. The issue of whether the four priority program areas should be increased or reduced in number or combined into one integrated approach should also be examined.

2. FINANCIAL ISSUES

The mid-term evaluation will give special emphasis to the following five financial issues: (1) targets for direct funding, (2) instrumental leveraging as a goal, (3) indirect funding targets, influencing institutions, and replication; (4) administrative cost recovery, and (5) organizational budgeting.

Direct funding consists of revenues that will pass through ATI's accounts either in Washington, D.C. or its branch offices overseas. Instrumental leveraging refers to funding that ATI helps a local NGO or other project partner institution in an LDC obtain for projects that jointly involve both ATI and the partner institution. Indirect funding refers to support obtained for the appropriate technology activities of other organizations that does not pass through ATI's accounts and also does not involve ATI participation implementation. Indirect funding may arise out of the activities of ATI in influencing donors or encouraging replication of technologies and dissemination strategies previously demonstrated by ATI. The rationale and background information for each of these issues are as follows:

Issue 1: Targets for Direct Funding:

The ATI-III's Cooperative Agreement contains targets for direct funding commitments to be received by year. Commitments refer to written agreements that provide future revenues that may be disbursed over one or more years. The cumulative targets in this CA for direct funding commitments are as follows: 1991 -- $3.604 million, 1992 -- $10.072 million, 1993 -- $18.092 million, 1994 -- $28.164 million, and 1995 -- $39.236.

The text of this Cooperative Agreement clearly indicates in one place that the $39 million cumulative target includes the $15 million provided by A.I.D/R&D/EID. 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 ($3.0 million/year for five years) into a total program in excess of $39 million" (ATI-III, Att. 2, B).

However, another part of the text is ambiguous on this matter, "ATI has established annual performance targets for the amount of subproject activities beyond A.I.D.'s core funds that they expect to receive from other donors, foreign governments, and A.I.D. missions/bureaus over the next five years. In total, ATI expects to receive ... over $39 million in financial assistance for services performed and/or subprojects implemented" (ATI-III, Att. 2, C). Annex I of ATI-III contradicts the text of the Program Description by listing specific sources other than this CA that are targeted to supply the $39 million in financing.

In official documents, A.I.D./R&D/EID and ATI have interpreted the $39 million performance target to include the $15 million in core funding, resulting in a net target of an additional $24.236 million raised. This was done on the basis that in the event of a conflict in the meaning of the document, the text of the CA is more legally binding than tabular material in annexes.

ATI's Five-Year Plan approved by A.I.D. contains the following end-of-year targets for cumulative direct funding commitments received outside of A.I.D./R&D, but it only refers to major projects of $500,000 or more: 1991 -- $4 million, 1992 -- $7 million, 1993 -- $11 million, 1994 -- $15 million, and 1995 --$19 million. The difference between the $19 million and the $24.236 million targets is that the latter includes smaller projects less than $500,000. In a meeting reviewing ATI's 1991 Workplan and Five-Year Strategy, R&D/EID concluded that "the $24 million funding target in Annex 1 of the ATI-III CA was ATI- not A.I.D.-initiated, and that the Office's objective for ATI is program effectiveness, not major growth in organizational size and/or budget." (A. Baumann, Memo of January 31, 1991).

Furthermore, ATI has found that the project cycle of U.N. agencies, multilateral development banks, and A.I.D. missions is often extremely slow. Even when these institutions express verbal interest in making funding commitments to ATI, it can take 2-3 years to follow the process through to the contractual stage. Nevertheless, the new ATI management does believe that the $24.236 million target for direct funding commitments is feasible, provided that the definition is broadened to include instrumental leveraging (issue 2).

Based on these considerations, the midterm evaluation will examine the pace of ATI's progress toward the achievement of its fund-leveraging targets. It should produce a finding on whether the existing targets are realistic or should be revised.

It should also provide a recommendation on resolving the apparent contradiction in the text and Annex of the CA about the inclusion of the $15 million in the $39.236 million target. Furthermore, the evaluation should provide guidance on the strategies used by ATI in leveraging these funds. Specifically, is ATI's current mix of fund-leveraging activities the best way to reach its targets? Are there other potential funding sources that merit greater development by ATI? What additional assistance could A.I.D./R&D/EID and other A.I.D. offices provide to ATI to further its fund-leveraging activities?

Issue 2: Instrumental Leveraging as a Goal:

ATI has found that much of the funding available from multilateral organizations is only available through loans or grants to LDC governments. These funds can only be used for programs implemented by either a government agency or local organizations designated by the government. Moreover, organizations providing funding that is not channelled through governments are often reluctant to provide funding directly to a U.S.-based PVO, but are willing to fund indigenous NGOs and other private institutions in LDCs. Even where ATI could obtain such funding, it would not be desirable to do so at the expense of a local partner institution jointly involved in preparation of the subproject if the local institution is capable of implementing them.

In many cases, ATI's interventions can be critical in helping local sub-project partners in LDCs obtain instrumental leveraging for joint activities. Although instrumental leveraging clearly contributes toward increasing the impact of ATI's work and scaling up the number of beneficiaries reached, it does not generate revenues to cover direct or indirect costs of ATI itself. Thus, there is a conflict between two of the CA's goals, expanding the resource base for appropriate technology and the organizational growth of ATI.

The ATI III Cooperative Agreement does not discuss the concept of instrumental leveraging for joint projects of local institutions and ATI. As a result of early experience under this CA, ATI has proposed that the document be amended to include instrumental leveraging in a revised definition of the term "direct funding" for cases in which three restrictive conditions are all met:

(1) ATI has conceptualized and supported the initiatives jointly with project partners;

(2) There is a formal relationship with our local partners, such as a memorandum of understanding, that specifies that ATI

will assist them in seeking funding for a joint initiative; and

(3) The funding obtained is clearly a result of ATI's efforts in conjunction with the project partners.

The midterm evaluation, based on those considerations, will consider whether the definition of direct funding should be changed to include instrumental leveraging subject to the above conditions. In doing so, it should examine the implications of not including instrumental leveraging in the direct funding targets -- specifically whether it would force ATI to grow at the expense of local partner institutions in LDCs. The issue of instrumental leveraging will have to be related back to the feasibility of the direct funding targets. The midterm evaluation will also examine the implications of including instrumental leveraging in the direct funding targets on the targets for administrative cost recovery. If the proposed change in definition is recommended, the midterm evaluation should provide guidance on the optimal balance of organizational effort to be devoted to instrumental leveraging and other direct financing, given the competing objectives of program impact and organizational growth.

Issue 3: Indirect Funding Targets, Influencing Institutions, and Replication

The concept of "indirect funding" of appropriate technology activities in which ATI has no implementation role does not appear anywhere in the text of the CA, but it is included in the performance targets in Annex I. The text of the document does state more generally that ATI is to "(1) Provide institutions working in the field of appropriate technology, government and donor agencies with information on program, planning, and policy strategies to facilitate the dissemination of project results and the application of appropriate technologies in general; and (2) Exchange information with appropriate technology groups, universities, research institutions and private voluntary organizations in appropriate technology development programs and projects, and small- and medium-sized businesses ..." (ATI-III, Att. 2, D).

The CA also lists replication of appropriate technologies as one of the tasks of ATI's field operations. Replication refers to assistance "in efforts to disseminate technical, marketing, institutional, and policy innovations, which have been successfully demonstrated in existing or completed subprojects. This activity includes locating other donor financial support for the replication of subprojects" (ATI-III, Att. II, B).

Annex I to ATI-III lists specific performance targets for cumulative indirect funding of other appropriate technology organizations: 1991 -- $5.075 million, 1992 -- 50.550 million,

overhead rates, cumulative targets were specified for recovery of administrative costs: 1991 -- $0.561 million, 1992 -- $1.456 million, 1993 -- $2.471 million, 1994 -- $3.643 million, and 1995 -- $4.875 million (ATI-III, Annex I). However, the calculations are difficult to reproduce because additional assumptions embedded in them were not listed.

There is no narrative discussion in the ATI-III document describing how administrative costs are to be recovered and the CA budget contains no line item provision for "overhead" or indirect cost amounts. It was assumed that these recovered funds are included as part of the direct funding targets.

There are two major problems associated with these financial targets -- the ambiguous terminology and difficulties in enforcing payment of administrative cost recovery rates by donors. OMB Circular A-122 discusses the mechanism used by the Federal government to distribute indirect costs to individual awards, projects, or other activities. This is done through a formal agreement on the allocation of indirect costs through a percentage recovery rate, which is renewed annually. This mechanism is known as the Negotiated Indirect Cost Rate Agreement (NICRA).

Article IV of the ATI-III CA references the NICRA rate in its discussion of the overhead rate. It is assumed that the administrative cost recovery rate on buy-ins or contributions and other A.I.D. contracts and cooperative agreements is the NICRA rate. It is also assumed that the lower rates on services and financial assistance were meant to be considered as fixed for the life of the CA, but no justification was presented for the choice of those rates. The NICRA rates are recalculated annually on the basis of ATI's historical cost experience as confirmed by an independent auditor before being submitted to A.I.D. for approval. The NICRA rate established after ATI's 1990 audit was 65.12 percent and a new rate will soon be proposed based on the 1991 audit.

Issue 4a. Ambiguous Terminology Associated with Financial Targets

The performance targets for cost recovery pertain to administrative costs. The term <u>administrative costs</u> does not have any standard meaning in OMB Circular A-122, which establishes the principles to be used in determining the cost of work performed by not-for-profit organizations under grants, cooperative agreements, subawards, subgrants, and subcontracts. Correspondence between A.I.D./R&D/EID and ATI subsequent to the signing of the CA indicates that the term administrative costs refers to all expenses not classified as financial assistance, including both direct costs and indirect costs.

ATI proposed a definition of <u>financial assistance</u> in a letter to A.I.D./R&D/EID on January 24, 1991 and that definition was accepted. By this definition, financial assistance "refers to ATI

1993 -- $72.500 million, 1994 -- $126.700 million, and 1995 -- $187.475 million. Annex I calls this category of support for appropriate technologies "leveraged financing", but does not include a definition of the term or indicate how it should be measured.

ATI's new management has concerns about the feasibility and relevance of these indirect funding targets. Tracking all of the activities of other institutions in appropriate technology dissemination would be expensive and, in some cases, the causal relationships between those activities and ATI's field and information exchange programs may be very oblique or long-term.

The midterm evaluation, hereby, will examine whether there is a real necessity for retaining quantitative performance targets for indirect funding in the Cooperative Agreement. If it concludes that there is such a need, it should examine whether the existing targets in Annex I are feasible and it should propose a clear definition of indirect funding as well as cost-effective methods for tracking progress toward these targets.

Issue 4. Administrative Cost Recovery

To achieve the wider adoption of its development strategies, ATI is expected to leverage greater financial assistance resources for its program. ATI-III was structured to provide incentives for the organization to "expand and diversify its project funding base" (ATI-III, Att 2, B). Consequently, this CA is flexible in allowing funds for administrative costs to be recovered from sources other than A.I.D./R&D/EID. These funds can then be applied to any purposes that further the objectives of the CA. However, the term "administrative costs" is not defined in the CA (see issue 3a below).

This CA states that, "Success in such an endeavor 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 program". It further elaborates, that "To accomplish this goal ATI will continue to receive core support from A.I.D. central funds to finance their operational expenses and operate a limited field assistance program" (ATI-III, Att. 2, B).

This CA contains annual performance targets for recovering administrative costs to "supplement the CA cost". It lists four direct funding sources and set initial rates for administrative cost recovery from each of these sources: 52% on "buy-ins" or other contributions from A.I.D., 52% on A.I.D contracts and other cooperative agreements; 18% on services; and 6% on financial assistance. The CA is unclear about whether the 18% and 6% rates also apply to A.I.D. as well as non-A.I.D. donors since there is no narrative explaining the numbers in Annex I. Based on the initial

subproject activities to promote appropriate technologies and/or the establishment or growth of enterprises in LDCs. Subprojects may be devoted to such activities as the identification, assessment, development, testing, adaptation, transfer and commercialization/dissemination of technologies or the implementation of financing mechanisms (such as loans, loan guarantees, and equity investments) ...."

OMB Circular A-122 defines total costs as "the sum of the allowable direct and allowable indirect costs...." Direct costs are defined as "those that can be identified specifically with a particular final cost objective, i.e., a particular award, project, service or other direct activity of an organization (OMB Circular A-122, Attachment A, Item A).

These regulations define indirect costs as "those that have been incurred for common or joint objectives and cannot be readily identified with a particular final cost objective". They cite some operating and maintaining facilities and general administrative and general (G&A) expenses, such as the salaries and expenses of executive officers, personnel administration, and accounting" (OMB Circular A-122, Paragraph C). New ATI management has concluded that having a performance target that uses an indirect cost rate to recover direct costs associated with projects, in addition to the indirect costs, is illogical and inconsistent with OMB Circular A-122.

Issue 4b: Difficulties in Enforcing Payment of the NICRA Rate by Donors

ATI has experienced difficulties in enforcing the application of the indirect cost recovery rates by donors in each of the categories of direct funding.

(1) Buy-ins or contributions include A.I.D. mission support under the new or existing projects. Even though buy-ins are designed to facilitate the administrative arrangements for supporting these activities, ATI has found that it is difficult to obtain indirect cost recovery on this type of funding. A.I.D. missions have refused to pay for indirect costs or an overhead recovery rate on the grounds that ATI is already receiving core funding from A.I.D./R&D/EID.

(2) Other A.I.D. contracts include awards for unsolicited proposals, other cooperative agreements with AID, and RFPs. In contracts under negotiation for PVO Co-Financing Programs, several A.I.D. missions have been unwilling to reimburse any of the costs incurred by ATI/Washington.

In addition, A.I.D. missions often want ATI to provide cost-sharing for joint subprojects. For example, to secure $999,379 from the Senegal A.I.D. mission's funding under its existing Transfer of Technology Project, ATI had to agree to contribute $466,639 toward the costs, including costs in-country as well as those borne by ATI headquarters. ATI was required to contribute funding toward such in-country costs as salary and benefits of the project manager, living costs and moving costs of the project manager, home leave transportation, and project office costs and support staff in Dakar. Nor was the Senegal mission willing to cover any of the direct costs of project management and monitoring in Washington.

ATI has found the competitive RFP process to be very costly and time consuming. For any bidder, the success rate in winning a particular bid is low and the costs of preparing proposals are not recoverable. ATI has a limited track record in implementing projects through RFPs as a prime contractor because it did not rely on that funding mechanism in the past. At present, ATI must be very selective in bidding on RFPs not only due to the cost, but also because ATI has a mandate with specific performance targets to achieve under its Cooperative Agreement, unlike most contractors.

(3) Services: ATI has provided services to various donor organizations. Some donors will pay for direct and indirect costs but others refuse to pay for overhead. Some donors have maximum daily rate provisions that do not allow for overhead recovery. Again, ATI faces a conflict in performing these service contracts because it has a mission to carry out using its core staff.

In many cases, organizations that are contracted to provide services in project design and appraisal are precluded, as a matter of donor policy, from implementing the same project. Since ATI's primary mandate is more in implementation of subprojects than provision of services, it has found it necessary to fund the costs of subproject design and appraisal for donor organizations without any remuneration in order to be eligible contracts for implementation.

ATI successfully competed as part of larger consortia on RFPs for the ARIES and GEMINI projects. However, the prime contractor for ARIES was a private consulting firm, which preferred to hire its own people for assignments due to its for-profit orientation. As a result, ATI received few good subcontracts under ARIES. ATI has participated in several important missions under the GEMINI project, but as one resource institution among many, this mechanism has only provided a limited amount of cost recovery in total for ATI.

(4) Financial Assistance. Funds are available from some major donors for financial assistance. However, most donors are not

willing to provide overhead on financial assistance to a U.S.-based organization, and, in many cases, even to local organizations in LDCs. Frequently, there are cost-sharing requirements as well, which force ATI to contribute direct program costs in addition to overhead costs.

Although the performance targets for administrative cost recovery include a rate to be applied to financial assistance, this is inconsistent with the NICRA formula, which specifically excludes financial assistance in the calculation of its rate. In addition, ATI's Leveraging Fund grant from A.I.D. states that "No indirect costs will be recovered under this grant" (Article IV).

Because of those trade-offs, the midterm evaluation will examine whether the concept of having performance targets for administrative cost recovery in the CA is warranted. If it concludes that these targets for administrative cost recovery are warranted, the evaluation will have to address the inconsistencies in the definition and calculation of these costs and the feasibility of the existing level of the targets. It would also have to assess how the lower than anticipated amounts of cost recovery to date will affect the achievement of the objectives of organizational growth and a more diversified funding base under ATI-III. In doing so, it would have to assess the base targets for buy-ins or contributions, other A.I.D. contracts, services, and financial assistance as well as the overhead rates applied to these bases. For example, the feasibility of the targets for RFPs would have to be considered in light of the conflicts among the various objectives of the ATI-III CA.

Issue 5: Organizational Budgeting

The multi-year line item totals in ATI's annual workplan budgets approved by A.I.D./R&D/EID are increasingly at variance with the original pro forma CA budget. This is related to the issues of funding diversification and administrative cost recovery above.

The midterm evaluation will examine the implications of the findings on administrative cost recovery and funding diversification on the ability of ATI to generate major portions of its operating and program costs from other source revenues by the 1994 anticipated completion date of the CA. It will consider whether the CA budget needs to be revised. It should also assess what degree of flexibility in budgeting will enable ATI to best meet the objectives of this CA.

E. METHODS AND PROCEDURES

The team will use three methods for collecting data: (1) travel abroad to visit selected countries and interview key persons, (2)

conduct interviews in Washington with key ATI partners (e.g. GEMINI), and (3) review ATI and A.I.D. documents. A two-person team will travel to Africa (Senegal and Tanzania) and another two-person team including the Commodity Specialist will travel to Latin America (Guatemala and Bolivia). Conference calls will be arranged between the evaluation team members and representatives of relevant institutions in countries where ATI is working under ATI-III (e.g., UNDP, USAID Honduras, UNIFEM, Africa NOW, etc.). This will include countries with A.I.D. and non-A.I.D. partners. The team should confer with ATI to obtain an up-to-date listing of countries where ATI has current projects as well as a list of other institutions besides A.I.D. that have provided funding for ATI's programs under the ATI-III Cooperative Agreement. Some countries, where sensitive negotiations are now underway between ATI and an A.I.D. mission, may be bypassed if R&D/EID agree such caution is warranted.

The six week level of effort for preparing the Evaluation Report may take place over an eight week period. Work should begin no later than June 15, 1992, and must be entirely completed no later than August 15, 1992.

The first week will be spent in Washington organizing the task, agreeing on assignments, reviewing documents and interviewing. The team must present a work plan acceptable to the R&D\EID\IDM Project Officer by the end of the fourth working day. The second, third and fourth week will be for travel, and for further Washington-based research for the team members. During the fifth week, the team will produce the first draft of the evaluation report. The team will present oral briefings to RD\EID and other Agency staff during the final week.

F. TEAM COMPOSITION

1) **Team Leader:** The team will be led by a Senior Agricultural Economist. It is essential to this task that this individual have a leadership position in his/her respective field; have a Ph.D in agricultural and resource economics; have background and field experience in methodologies for evaluation; and have worked in technology generation/transfer and resource management issues in developing countries for at least ten years. This professional must have had at least five years' experience consulting with the World Bank, A.I.D. or other donors on technology transfer, farming systems, agricultural marketing and natural resources/environmental issues in developing countries.
Language requirement: Spanish R-2, S-2 at minimum.
Level of effort: 45 person-days.

2) **Commodity Marketing/Agribusiness/Micro-enterprise Specialist:**

He/she will have experience in business, industry, and economic development; have worked in developing countries issues

related to agribusiness/micro-enterprise/commodity marketing activities; and have a PhD in economics or related field.
Language requirements: French, Level R-2, S-2.
Level of effort: 35 person-days.

3) Institutional Specialist:

He/she will have a PhD degree in Anthropology/Sociology, or Political Science/Public Administration; have at minimum five years overseas experience in institutional development, and have familiarity with PVOs and NGOs.
Language requirements: working knowledge of Spanish and/or French.
Level of effort: 30 person-days.

4) Financial Systems/Administrative Specialist:

He/she will have a MS degree at minimum in Finance and Accounting, have five years minimum overseas experience and familiarity with A.I.D. accounting and financial systems.
No language requirements.
Level of effort: 30 person-days.

G. REPORTING REQUIREMENTS

Ten (10) copies of the Evaluation Report will be provided. This report consists of a standard A.I.D. Project Evaluation Summary (including an executive summary not to exceed three pages, as described in the attached PES form instructions), a Summary of Conclusions, Findings and Recommendations, no to exceed 10 pages, the main report not to exceed 40 pages, and annexes (including the scope of work, and a list of documents, agencies and individuals consulted). All documentation is to be submitted to R&D/PO on 3 1/2" or 5 1/4" diskette using Word Perfect on a DOS 3.0 format.

H. FUNDING

The estimated budget on the following page indicates the expected cost, and documents the basic assumptions underlying the figures. As the ATI budget does not allow for evaluation funds, funding is requested from the R&D Small Projects Fund.

Estimated L.O.E
ATI Mid-term Evaluation

	Days
Senior Agricultural Economist	45
MBA/micro-enterprise/commodity marketing specialist	35
Institutional specialist	30
Financial Systems/admin. spec.	30

TABLE 1 (PART A)

FUND LEVERAGING COMMITMENTS – UNDER COOPERATIVE AGREEMENT II (ATI III)
SEPTEMBER 30, 1989 THROUGH JUNE 30, 1993

A. COMMITMENTS FOR PROJECTS

PROJECT NAME	PURPOSE	TOTAL (1) PROJECT FUNDING	DIRECT FUNDING	INSTRUMENTAL LEVERAGING	NAME OF DONOR (2)	ATI LEVERAGING FUND CONTRIBUTION (*)	ATI OTHER CONTRIBUTION	PERIOD OF PROJECT	OBSERVATIONS
1. Stove Artisans/Homemakers SENEGAL	Transfer ATI tested technologies to small farmers/producers	1,478,818	969,379	0	USAID/SENEGAL	187,800	311,639	10/90 – 6/93	Project Underway
2. Harder/Fiber Processors BOLIVIA	Boost incomes of small producers by increasing quality/quantity of fiber	3,883,417	3,329,067	254,350	UNDP/UNCDF	224,950	175,000	9/91 – 9/96	Project Underway
3. Sunflowerseeds Oil Processors TANZANIA	Disseminate ram press to increase cooking oil availability and generate employment	278,783	90,000 161,433	0 0	FICAH USAID/WID	0 22,000	93,320 0	9/90 – 12/92 9/92 – 9/94	Project Underway Contract Signed
4. Sunflowerseeds Oil Processors ZIMBABWE	Introduce/disseminate ram press. Provide marketing & technical asst. to machine shops	278,983	90,000	0 52,000	Africa Now CIDA/Canada	90,000	144,983	9/90 – 6/92	Project Underway/Africa Now funds received over a period of 3 years
5. Cashew Producers HONDURAS	Demonstrate commercial viability of medium scale cashew production	429,791	14,791	315,000	USAID/Honduras	0	100,000	10/91 – 3/96	Project Underway
6. Small Producer Venture Capital THAILAND	Develop a gender sensitive venture capital company for small scale producers	322,000	290,000	0	UNIFEM	48,000	27,000	Start up pending	Temporary ban on U.S. government asst. to Thailand. Negotiations underway
7. Textile Producers INDIA	Implement appropriate pollution control technologies for small scale textile industries	488,842	0	408,000	SIDBI	80,842	0	4/91 – 12/96	Feasibility completed. Demonstration phase initiated July, 1992
8. Ceramicists GUATEMALA	Increase income of small producers of traditional ceramics introducing improved technologies and a credit program	503,520	0	416,520	CODESPA – FUNDAP	23,000	70,000	8/1/92 – 4/30/96	Underway
9. Coconut Processors PHILIPPINES	Disseminate small scale coconut processing to rural producers	239,375	209,000	0	USAID/PHIL	30,375	0	8/17/92 – 6/17/96	Underway
10. Resource-Poor Farmers ASIA	Testing and dissemination of biotechnologies – Kapok and Potato Tissue Culture – in Indonesia.	428,842	40,000 88,842	0 200,000	USAID/WID Rockefeller Foundation	12,000 80,000	28,000 0	Start up pending	Contract signed Contract being finalized
11. Market Gardeners NIGERIA	Pilot dissemination of manual pump in Northern Nigeria	249,200	0	219,000	SADDA & NAERLS	27,200	0	9/92 – 7/93	MOU & contract signed with local partners
12. Oilseeds Processors AFRICA REGION	Disseminate ram press to increase cooking oil availability and generate employment	1,934,707	1,434,707	0	USAID/Africa Bureau/ONI	100,000	0	5 year project	C.A. amendment to fund $300,000 this oper. year & AID obligation for $1.4 million
SUBTOTAL COMMITMENTS FOR PROJECTS		10,179,826	6,578,039	1,848,900		801,067	949,922		

(*) A complete list of current obligations against the $1 million leveraging fund is provided in Table 3

TABLE 1 (PART B)
FUND LEVERAGING COMMITMENTS -- UNDER COOPERATIVE AGREEMENT II (ATI II)
SEPTEMBER 30, 1988 THROUGH JUNE 30, 1993
(IN US DOLLARS)

B. COMMITMENTS FOR FEASIBILITY STUDIES/OTHER SERVICES NAME	PURPOSE	TOTAL (1) FUNDING	DIRECT FUNDING	INSTRUMENTAL LEVERAGING	NAME OF DONOR	LEVERAGING FUND CONTRIBUTION	ATI OTHER CONTRIBUTION	DATE OF SERVICE	OBSERVATIONS
1 Rare Press Conference	Disseminate info about rare press/AFRICA	39,417	25,000	0	Global Action	0	14,417	1990	Completed
2 Rare Press Conference	Disseminate info about rare press/AFRICA	11,600	11,600	0	IDRC	0	0	1990	Completed
3 Rare Press Manual	Disseminate info about rare press/AFRICA	20,000	20,000	0	Dutch Govt	0	0	1990	Completed
4 Case Study	Entrepreneurship training case study on SME/INDIA	4,000	4,000	0	Robert Nathan	0	0	1990	Completed
5 Microenterprise Dev	Analysis of USAID's ME project/JAMAICA	12,005	12,005	0	DAI	0	0	1990	Completed
6 Technology Paper	Increasing Productivity of SME thru GEMINI	12,020	12,020	0	DAI	0	0	1990	Completed
7 Subsector Study	Subsector Study/LESOTHO	4,848	4,848	0	DAI	0	0	1990	Completed
8 SSIA Feasibility Study	Study feasibility of hide production/KENYA	10,767	10,767	0	IFAD	0	0	1990	Completed
9 Macro Policy Study	Collect/analyze info on SME to govt./ANGOLA	12,000	12,000	0	UNDP/UNIDO	0	0	1990	Completed
10 Macro Policy Study	Study on national policy for SME/PHILIPPINES	28,788	28,788	0	IDRC	0	0	1990	Completed
11 V.C. Feasibility Study	Assess feasibility of establishing a venture capital facility for ag & artisan products/BALI	39,238	39,238	0	PMO	0	0	1990	Completed
12 Agribusiness Contact	Agribusiness support to cooperatives/UGANDA	38,883	38,883	0	ACDI	0	0	1990	Completed
13 WID Strategy	Advise on women & tech choices--Andean Reg/ECUADOR	8,888	8,888	0	UNIFEM	0	0	1991	Completed
14 WID Mission	Inventory of opportunities/UGANDA	8,888	8,888	0	UNDP	0	0	1991	Completed
15 African Enterprise Dev	TA for Enterprise Development/AFRICA	2,488	2,488	0	World Bank	0	0	1991	Completed
16 Venture Capital Feas.	Pre--feasibility on venture capital/NORTH SUMATRA	51,488	39,488	0	AID/PPC/WID	0	12,000	1991	Completed
17 Lime Proc. Conference	Conference for Central America small producers/CA	28,000	0	28,000	UNCHS Habitat	0	0	1991	Completed
18 Palm Oil Mission	Feasibility/small scale palm oil proc/W. AFRICA	39,788	39,788	0	IFAD	0	0	1991	Completed
19 Coconut Processing	Coconut processing state--of--the--art study/PHILIPPINES	38,888	38,888	0	IDT	0	0	1991	Completed
20 Methane Emission	Reduction of methane emission feasibility/WORLDWIDE	188,181	148,283	0	US EPA	0	8,888	1991	75% completed
21 Cassava Grains	Feasibility of lowering grain process cost/MALI	43,857	43,857	0	AID/PPC/WID	0	0	1991	Completed
22 Agribusiness Contact	Agribusiness support to cooperatives/UGANDA	22,343	22,343	0	ACDI	0	0	1991	Completed
23 Mission for USAID	Sector assessment/development strategy/ZAMBIA	10,782	10,782	0	DAI	0	0	1991	Study completed
24 AETA Reorganization	Institutional development/MALI	31,871	31,871	0	USAID/MALI	0	0	1992	In progress
25 EPARD Training	Training of ADB/N officers in financial mach/NEPAL	385,000	77,000	308,000	UNDP/Nepal	0	0	1992	In progress
	SUBTOTAL COMMITMENTS FOR FEAS STUDIES/OTHER	1,023,532	675,277	314,000		0	38,255		
	SUBTOTAL COMMITMENTS FOR PROJECTS	10,179,828	6,576,039	1,849,900		901,997	849,822		
	GRAND TOTAL (PART A + PART B)	11,203,360	7,251,316	2,163,900		901,997	888,177		

(1) An explanation of each column is provided on Table 4

Prepared by Stassis/Wright

TABLE 2
ATI'S FUND LEVERAGING PIPELINE

24-Nov-92

#	PROJECT NAME	PURPOSE	TOTAL FUNDING (1)	DIRECT FUNDING	INSTRUMENTAL LEVERAGING	NAME OF DONOR (2)	ATI LEVERAGING FUND CONTRIBUTION	PERIOD OF PROJECT	OBSERVATIONS
1.	Lime Processing CENTRAL AMERICA	Increase income of small lime producers using traditional methods through introducing improved technologies and a credit program	$2,850,000	$275,000 $425,000	$2,000,000	CABEI UNDP/PEC	$250,000	10/92 – 10/97	Proposal submitted in June Negotiations underway
2.	Dairy Feeding Systems INDIA	Widespread dissemination of dairy feeding technologies increasing milk production while decreasing methane (CH_4) emmissions	$2,178,750	$1,500,000 $0 $678,750	$0 $660,000 $0	AES SIDBI Rockefeller	$100,000	5 years 5 years	Project plan development underway Project plan development underway Funding approved
3.	Oilseed Processing ZAMBIA	Disseminate ram press to increase cooking oil availability and generate employment	$3,398,694	$3,398,694	$0	USAID/Zambia	$0	4 year	RFP Submitted – Best & Final Status
4.	Palm Oil Processing NIGERIA	Pilot dissemination of small scale palm oil extraction technology	$675,000	$500,000	$100,000	World Bank	$75,000	3 year	
5.	Regional Biotechnology ASIA	Lab to land program for bringing biotechnologies to small farmers	$3,343,201	$328,485 $421,716 $300,000 $554,000 $239,000	$0 $150,000 $100,000 $900,000 $50,000 $99,642	ADB ESCAP Ford Foundation ODA FAO/Rome & Nepal Rockefeller Foundation	$- $45,000 $30,000 $64,000 $50,000	3 – 5 year	Proposals submitted Proposals submitted Proposal underway Proposals submitted Proposals underway
6.	Small Scale Irrigation NEPAL	Commercialization of Lhares Pump, a stream powered water pumping device.	$369,491	$82,491	$239,000	Thresher Fdt – Local Org	$30,000	2 year	Project proposal submitted
7.	Venture Capital INDONESIA	Test alternative financial mechanisms for small producers	$330,000	$0	$300,000	Local Org	$30,000	2 – 4 year	Feasibility reports completed Fundraising activities underway
8.	Potato Processing INDIA	Widespread dissemination of ATI's potato processing technology project	$1,100,000	$0	$1,000,000	UNICEF/SIDBI	$100,000	3 year	Proposals underway
9.	Senegal PVO Co – Financing SENEGAL	Continue and expand dissemination of jiko and market gardening technologies	$1,678,888	$1,393,889	$400,000	USAID/Senegal	$88,000	1/93 – 12/96	Proposal submitted
10.	Fruit and Vegetable Production WEST AFRICA	Disseminate technology for market gardners including small – scale irrigation and post – harvest processing	$1,859,840	$469,936 $984,810 $250,000 $75,000	$0 $0 $0 $0	USAID/Mali World Bank/Niger World Bank/Algeria IFAD/Nigeria	$0 $30,000 $20,000 $0	6/93 – 6/96 12/92 – 12/94 3 Years 2 Years	Proposal submitted Proposal submitted Plan Development Plan Development
11.	Cereal Processing SENEGAL	Pilot dissemination of steel – tipped pestles	$94,956	$94,956	$0	Technology Transfer/ Senegal	$0	1/93 – 12/96	Proposal submitted
12.	Oil Seed Processing THE GAMBIA SENEGAL	Dissemination of the ram press for sesame oil production	$1,850,000	$750,000 $750,000 $349,000	$0 $0 $0	USAID/Gambia UNDP/Gambia UNIFEM/Senegal	$60,000	3 Years	Plan Development
13	Oilseed Processing TANZANIA	Disseminate ram press to increase cooking oil availability and generate employment	$145,000	$120,000	$0	PICAH	$25,000	2 Years	Plan Development
14.	Post – Harvest Handling of Coffee CENTRAL AMERICA	Increase productivity, value added activities while preventing environmental degradation generated by coffee processing	$630,000	$300,000	$488,000	World Bank/Energy Strategy Mgmt. Asst. Program	$60,000	3 Years	Plan Development
15.	Methane Reduction Ruminants WORLDWIDE	Widespread dissemination of dairy feeding technologies increasing milk production while decreasing methane (CH_4) emmissions	$128,000	$128,000	$0	USEPA	$6,000	1 Year	Feasibility underway
16.	Methane Reduction Animal/Agr. wastes WORLDWIDE	Study to focus on methane reduction from processing wastes	$189,000	$180,000	$0	USEPA	$6,000	1 Year	Proposal preparation
17.	Dairy Feeding Systems BANGLADESH	Widespread dissemination of dairy feeding technologies increasing milk production while decreasing methane (CH_4) emmissions	$2,610,000	$2,000,000 $40,000	$600,000	GEF USEPA	$50,000 $20,000	5 Years	Concept stage
	TOTAL ATI FUND LEVERAGING PIPELINE		$23,797,006	$15,950,000	$6,786,642		$1,159,000		

(1) An explanation of each column is provided in Table 4.

(2) Full list of donor names is attached as Table 4.

Prepared by Stasch/Wright

TABLE 3. ALLOCATION PLAN FOR LEVERAGING FUND (*)

Contract Signed**	Project Name	Country	ATI Lev. Allocation	Amount Leveraged	Leveraging Ratio	Direct Leveraging	Instrumental Leveraging
	Commited to Date (June, 1992):						
09/30/91	Herders/Fiber Processors	Bolivia	$224,950	$3,583,466	16	$3,329,086	$254,380
10/10/90	Stove Artisans/Homemakers	Senegal	$167,800	$999,379	6	$999,379	$0
05/14/92	Textile Producers	India	$60,642	$400,000	7	$0	$400,000
04/29/92	Ceramicists	Guatemala	$23,000	$410,520	18	$0	$410,520
06/09/92	Oilseeds Processors	Zimbabwe	$30,000	$102,000	3	$50,000	$52,000
06/16/92	Small Producer Venture Capital	Thailand	$45,000	$250,000	6	$250,000	$0
5/22/92	Market Gardeners	Nigeria	$27,200	$218,000	8	$0	$218,000
6/17/92	Coconut Processors	Philippines	$39,375	$200,000	5	$200,000	$0
	Total Commitments (9/92)		**$617,967**	**$6,163,365**	**10**	**$4,828,465**	**$1,334,900**
	Expected to be Obligated by December, 1992:						
	Lime Processors	C. A.	$250,000	$2,700,000	11	$700,000	$2,000,000
	Dairy Farmers	India	$50,000	$2,078,000	42	$1,578,000	$500,000
	Resource-Poor Farmers	Asia	$50,000	$1,854,000	37	$854,000	$1,000,000
	Market Gardeners	Nepal	$30,000	$330,000	11	$92,000	$238,000
	Total Expected Commitments		**$380,000**	**$6,962,000**	**18**	**$3,224,000**	**$3,738,000**
	GRAND TOTAL		**$997,967**	**$13,125,365**	**13**	**$8,052,465**	**$5,072,900**

24-Nov-92
Prepared by T. Wright

NOTES:

1. ATI Leveraging Fund Allocation refers to allocations against the $1 million Leveraging Fund.
2. Amount Leveraged is the sum of direct commitments (through ATI's books) and Instrumental Leveraging (project contributions to local partners).
3. This table does NOT include requirements of leveraging funds for initiatives expected to mature during 1993 (see Table 2).

* For a complete listing of ATI's leveraging operations (including also those that will not require commitments of ATI's Leveraging Funds) see Tables 1 and 2.

** Contract signed column refers to the date that contributions from other donors and/or partners were committed through written agreements with ATI. The commitments are reflected in the Direct and Instrumental Leveraging columns.

TABLE 4

DEFINITIONS OF FUNDING TERMS

Direct funding consists of revenues that will pass through ATI's accounts either in Washington, D.C. or its branch offices overseas.

Instrumental leveraging refers to funding that ATI helps a local NGO or other project partner institution in an LDC obtain for projects that jointly involve both ATI and the partner institution.

ATI leveraging fund contribution represents obligations against A.I. D. Leveraging Grant to ATI.

ATI other contribution refers to project funding provided by ATI through funds available through the first or the second cooperative agreements with A.I.D.

Total Project Funding is the sum of the four items mentioned above.

LIST OF DONORS

ACDI	Agricultural Cooperative Development International
ADB	Asian Development Bank
AES	Applied Energy Systems, Inc.
CABEI	Central American Bank for Economic Integration
CIDA	Canadian International Development Agency
CODESPA	Cooperacion al para Desarrollo y Promocion de Actividades Asistenciales
ESCAP	Economic and Social Commission for Asia and the Pacific
FAO	Food and Agriculture Organization
FICAH	Food Industry Crusade Against Hunger
FMO	Netherlands Development Finance Co. Ltd.
GEF	Global Environmental Fund
IDRC	International Development Research Center
IFAD	International Fund for Agricultural Development
KIT	Netherlands Royal Tropical Institute
NAERLS	National Agricultural Extension and Research Liason Services
NOVIB	Nederlandse Organisatie voor Internationale
ODA	Overseas Development Administration
SARDA	Soroto Agricultural and Rural Development Authority
SIDBI	Small Industries Development Bank of India
UNDP/UNCDF	United Nations Development Program/United Nations Capital Development Fund
UNCHS	United Nations Center for Human Settlements (Habitat)
UNESCAP	United Nations Economic & Social Commission for Asia South Pacific
UNIFEM	United Nations Development Fund for Women
USEPA	United States Environmental Protection Agency

13.3. Collaborating Organizations with ATI Biotechnology Program

Bangladesh

R&D Institutions
Bangladesh Agricultural Research Council (BARC)
Department of Botany, Dhaka University
Bangladesh Agricultural Research Institue (BARI)
Tuber Crops Research Centre (TCRC)
Bangladesh Forest Research Institute (BFRI)
Bangladesh Center for Research and Action on Environment and Development

NGOs
Bangladesh Rural Action Committee (BRAC)
Bangladesh Centre for Advanced Studies

India

R&D Institutions
Indian Agricultural Research Institute (IARI), New Delhi
Central Potato Research Institute (CPRI), Simla
National Botanical Institute, Lucknow
Indian Horticultural Research Institute, Bangalore
National Chemical Laboratory, Pune
Tata Energy Research Institute (TERI)

NGOs
BAIF Development Research Foundation
Professional Assistance for Development Action (PRADAN)
National Dairy Development Board (NDDB)
Aga Khan Rural Support Programme
M.S. Swaminathan Research Foundation and Center for Research on Sustainable Agriculture and Rural Development

Industry
Biotech Consortium India Limited (BCIL)
Small Industries Development Bank of India (SIDBI)
Industrial Extension Board (iNDEXTb)
National Bank for Agriculture and Rural Development (NABARD)

Indonesia

R&D Institutions
National Center for Research in Biotechnology
InterUniversity Center for Biotechnology, Bogor Agricultural University (IPB)
Bogor Research Institute for Estate Crops

Bogor Research Institute for Food Crops
LEHRI (CIP Regional Center), and Berastagi Horticultural SubResearch Center

NGOs and Farmers' Organizations
BINA SWADAYA (Java)
YASHIKA (N. Sumatra)
MBM Foundation (Bali)
Bina Sarana Bhaki Foundation

Industry
NATURINDO
P.T. Bahana
Bank Dagang Bali
Ir. Valentina Sri Sumarni (Farmer Representative)

Nepal

R&D institutions
National Agricultural Research Council (NARC)
Department of Forestry and Plant Research
Central Food Research Laboratory National Plant and Herbarium Laboratory at Godavari
National Potato Development Programme at Khumaltar
Royal Nepal Academy of Science and Technology (RONAST)
Research Laboratory for Agricultural Biotechnology and Biochemistry (RLABB)
Tribhuvan University

NGO
New Era
Center for Rural Technology

Industry
Biotechnology Enterprises Pvt. Ltd.
Agricultural Development Bank/Nepal (ADB/N)
Botanical Enterprises (P.) Ltd.
Biogas Company
Herbs Production and Processing Company Ltd.

Philippines

R&D Institutions
Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD)
Bureau of Plant Industry (BPI)
National Institutes of Biotechnology and Applied Microbiology (BIOTECH), UPLB
Department of Horticulture, UPLB
Institute of Plant Breeding, UPLB

Davao National Crop Research and Development Bureau (ERDB), UPLB
Fiber Development Authority (FIDA), Bicol University
Philippine Coconut Authority (PCA)
The International Potato Center (CIP) Region VII
The International Rice Research Institute (IRRI)

NGOs and Farmers' Organizations
Phillippines Buisness for Social Progress, Center for Rural Technology Development (PBSP-CTRD)
Marcial M. Bondad (Farmer Representative)

Industry
Land Bank
Los Banos Biotechnology Corporation

Sri Lanka

R&D Institutions
Institute for Fundamental Studies, Kandy
Coconut Research Institute, Lunuwila
Department of Botany, University of Peradeniya, Peradeniya
Agricultural Research Centre, Bombunwela

NGOs and Farmer's Organizations
PLENTY, Canada
Christie Koelmeyer (Farmer Leader)

Industry
National Development Bank (NDB)

Thailand

R&D Institutions
Department of Agricultural Extension Ntional Center for Genetic Engineering and Biotechnology (NCGEB)
Kasetsart University, Faculty of Agriculture
Thailand Institute for Scientific and TEchnological Research (TISTR)
Biological Nitrogen Fixation Resource Center (BNFRC)

NGOs
Foundation for Thai Rural Reconstruction Movement (TRRM)
SVITA Foundation
Population and Community Development Association (PDA)

Industry
Bank for Agriculture and Agricultural Cooperatives

Vietnam

R&D Institutions

State Committee for Science, Scientific Council of Biotechnolgoy
Ministry of Agriculture and Food Industry
National Institute for Scientific and Technological Forecasting and Strategy Studies
Institute of Biology, Naitonal Center of Scientific Research
Agricultural College No. 1
Biotechnology Research Center, HoChiMinh City
Institute of Agricultural Science and Technics
Insttitute of Agircultural Genetics
Agricultural College No. 4, HoChiMinh City
University of Dalat
University of Can Tho
Forestry College
Agricultural Genetics Insitute

NGOs

CIDSE
Save the Children
Minnonite Central Committee
International Development Enterprises

RONALD D. STEGALL

712 East Capitol Street, NE
Washington, D.C. 20003

Washington, D.C. (202) 544-5111
Deer Isle, Maine (207) 348-6839

PROFESSIONAL EXPERIENCE

May 1991 - Present

U.S. REPRESENTATIVE AND ADVISOR
Russian Federation State Committee on Architecture and Construction

Development and management of assistance activities related to conversion to privately owned housing and a market economy. The focus is on the establishment of a working relationship between corporations, academic institutions, U.S. government agencies and other private institutions, and the Russian Association for the Revival of Central Russia founded by the Council of Ministers of the Russian Federation. This effort includes an advisory role on public management issues and innovations.

October 1990 - May 1991

ADVISOR/TRAINER Civil Service Reform
Prime Minister's Office, Brunei Darussalam

Training of senior civil service staff and training of trainers for a government-wide review of the civil service and establishment of a performance improvement program. Institutional assessment and recommendations for changes in structures, systems and processes have been a major part of this responsibility.

1990 - 1991

ADVISOR Institutional Assessment and Development Strategy

Appropriate Technology International
Shelter the World
National Capital Greenway Alliance

1987 - 1989

RESIDENT ADVISOR Office of the Prime Minister, Brunei Darussalam
Harvard Institute for International Development

Development and management of three year HIID project to improve the quality of public management in Brunei Darussalam. The program, funded by the Brunei government, has included more than 30 professionals providing technical assistance, analysis and training to several government ministries. Subjects dealt with include alternative development strategies; development of a personnel management capability; establishment of a Civil Service Institute; introduction of resource economics as a basis for development decisions; analysis and training in the areas of government expenditure, public sector/private sector relationships, environmental strategy, manpower development, and organizational development.

1984 - 1986

VICE PRESIDENT and head of Washington Office
Milhaly International Corporation

Service to major American and Canadian corporations through:
- identification and evaluation of business opportunities in South Asia, Southeast Asia, Turkey and parts of Africa;
- careful building of access to those opportunities;
- assessments of political and economic climates and consequent strategic planning;
- selection of appropriate joint venture partners;
- assistance in entering and setting up operations in countries in which clients have not operated;

PROFESSIONAL EXPERIENCE - Continued

- resolution of business and government issues;
- dealings with multilateral, bilateral, and private development and financial institutions;
- a Washington presence and established access to the network of institutions related to international business and development activities.

CONSULTANCIES 1982 - 1984

Mihaly International: Design of program for promotion of joint ventures between Indonesian and U.S. private business. Also participation in Nigerian/U.S. Business Council meetings in U.S. and Nigeria and related program development.

Office of Technology Assessment, U.S. Congress: Design and leadership of international workshop on technology transfer in Third World. Preparation of recommendations to Congress on ways to effect more successful technology transfer in U.S. supported development efforts.

Agesta Group AB (Sweden): Program development and support activities for the United Nations Centre for Human Settlements and the International Year of Shelter.

A.T. International (A.T.I.): Program development in Asia and assessment of local institutional capabilities to undertake effective development activity. Establishment of international association of Third World private development organizations.

International Institute for Environment and Development (IIED): Evaluation of AID contracted environmental activities undertaken by the U.S. Office of the Man in the Biosphere program of UNESCO.

DIRECTOR, Appropriate Development Services
A.T. International Washington, D.C. 1981 - 1982

Planning and management of all ATI field programs-Asia/Middle East, Latin America/Caribbean, Africa/South Pacific. Emphasis on decentralized development, sustainable enterprise and strengthening of local institutions.

DIRECTOR for Asia and Middle East
A.T. International Washington, D.C. 1979 - 1981

Responsible for regional programs, staff development and financial management. Focused on income generation activities by indigenous development groups; commercialization of appropriate technology; and advocacy of policy changes by governments and development organizations to enhance progress efforts.

PROGRAM MANAGER
German Marshall Fund of the United States Washington, D.C. 1977 - 1979

Responsible for the urban and regional program components of the Fund's activity. Designed and managed major effort to share German, British and U.S. experience in dealing with urban decline. Emphasis on private business sector role. Worked with wide variety of organizations in the field. Developed the international component to White House Conference on Balanced National Growth.

PROFESSIONAL EXPERIENCE - Continued

ASSISTANT to the Secretary and DIRECTOR of International Affairs
Department of Housing and Urban Development Washington, D.C. 1972 - 1977

Responsibilities included the following:
- Executive Secretary, US/USSR Agreement on Housing and Other Construction;
- Chairman, Housing Sub-Committee, US/Iran Joint Commission;
- Responsible for U.S. Government substantive preparations for U.N. Conference on Human Settlements, "Habitat", Vancouver, 1976; member of U.S. Delegation;
- Founder and first director of the Habitat National Centre;
- U.S. Delegate to ECLA Regional Conference on Habitat;
- Member, U.S. Delegation and HUD representative to Governing Council of United Nations Environmental Program (UNEP), Nairobi, 1974 and 1975;
- Acting Director of Program Regulations and Assistance, Office of Community Development;
- Acting Special Assistant to the Assistant Secretary for Community Planning and Development;
- U.S. Government Representative to Working Party on Urban Renewal and Planning at U.N. Headquarters in Geneva.

SPECIAL ASSISTANT to the Vice President of Operations
Norton Simon Inc. New York, 1970 - 1972

One of 11 government executives selected by the President's Commission on Personnel Interchange to spend a year in the business sector. Remained two years to establish corporate social responsibility program.

Recruited by International Rescue Committee as loaned executive from Norton Simon Inc. to establish relief and rehabilitation efforts in Bangladesh following war with Pakistan.

CONSULTANT to Model Cities Administration
Department of Housing and Urban Development Washington, D.C. 1968 - 1970

Coordination of HUD effort to secure resources from all relevant federal agencies for model cities including funding, technical assistance and administrative concessions.

DIRECTOR
Care Inc. India, Turkey, Afghanistan 1965 - 1968

- Chandigarh, India - Administration of three State feeding programs for one million school children. Extensive development work on self-help, urban and rural community development and relief programs; establishment of small scale enterprise;
- Calcutta, India - establishment of emergency feeding program for 1.5 million rural non-land-owning persons. Development work focused on local production and processing of food;
- Kabul, Afghanistan - Chief of Mission which included development work and an extensive MEDICO program;
- New Delhi, India - Development Consultant to new effort by CARE to produce and process locally the food for its nutrition programs;
- Eastern Turkey - Initiation and supervision of CARE self-help and development programs and nutrition programs for mother/child health centers.

PROFESSIONAL EXPERIENCE - Continued

DIRECTOR
Peace Corps Turkey 1966
- Peace Corps training program in community development, Turkey;
- Peace Corps community development program, Turkey.

ADMINISTRATOR
Teachers College, Columbia University Kabul, Afghanistan 1961 - 1963

Part of a 30 person team working under an AID contract on education system development in Afghanistan.

YOUTH DIRECTOR in Spanish-speaking Presbyterian congregation in the Bronx, 1960.

EDUCATION

UNIVERSITY OF CINCINNATI - Masters in Community Planning, 1965.

UNION THEOLOGICAL SEMINARY - Graduate Study, 1960 - 1961.

WILLIAMS COLLEGE - B.A. Political Science/Economics, 1960.

LANGUAGES

English, Spanish, Turkish, Dari, French (in rapidly decreasing order of capability!)

PERSONAL

Born October 1, 1938. Married with two children.

BACKGROUND/EXPERIENCE

Peter J. Bearse, President and Chief Economist, Development Strategies Corp.

PETER J. BEARSE is a professional economist and entrepreneur who has worked for most of the past 22 years to effect new approaches to business, industry and area-wide economic development. This goal has been fulfilled in two ways:

(1) through writings and extensive publication which have helped to redefine economic development policies and program designs; and ...

(2) through the design and execution of projects which have demonstrated innovative approaches and provided strategic injections of assistance to sectors of small business and industry.

Early in 1982, Dr. Bearse started his own business, an economic consulting firm incorporated in New Jersey under the name Peter Bearse Associates(PBA). The firm's name was changed in 1986 to Development Strategies Corporation(DSC) and incorporated in Massachusetts. Over the past 10 years, PBA and DSC have developed a reputation for doing high quality, leading-edge projects in business and economic development and policy research. These include:

- Planning a facility on the campus of the New Jersey Institute of Technology to serve small business incubation, technology transfer and workforce training objectives for small (job shop and batch) manufacturing firms;
- Feasibility studies and development plans for other domestic (USA) small business incubation facilities in Jersey City (NJ), Chicago (IL), Brooklyn (NY) and Northern Cook County (IL);
- Feasibility studies, development plans and/or business/action plans for the development of business incubation programs and facilities in foreign countries, including Jamaica, India, Poland and Zimbabwe. These efforts have included analyses of financial feasibility for the development of facilities which become self-sustaining and market-driven rather than subsidy drains on the public fisc.
- The design and national demonstration of Interfirm Comparisons^{TM} as a way to diagnose productivity problems and other performance shortcomings among small manufacturers and to spur improvements in their competitiveness;
- Research on entrepreneurship, especially minority and ethnic entrepreneurship, and policies to promote it;
- Formulation of innovative community economic development strategies for neighborhood groups in Pittsburgh and other communities;
- In one-on-one competition with "Big 6" accounting firms: winning contracts to conduct national industry surveys for both the American electronics industry and housewares industry and produce "state of the industry" reports for both industry groups;
- Development of the nation's first micro-computer model to simulate the process of community economic development;
- Assessment of the impact of state and local regulation on small business formation, growth and failure; and....
- Projects to spur indigenous entrepreneurship and small enterprise development in developing countries; e.g., a micro-enterprise development program for Poland, now being implemented by one of the Polish ministries.

Dr. Bearse has developed DSC to the point where the firm employs four others directly and involve a network of professional associates nationwide. His counsel as a consultant has been sought by a long list of public and private organizations. These include the World Bank, the United Nations Development Programme, the Industrial Council of N.W. Chicago, Regional Plan Association, the First National Bank of Boston, the U.S. Department of Commerce, the U.S. Economic Development Administration, the Tooling and Machining Associations of New Jersey and Illinois, the Technical Development Corporation, Columbia University, the City of Pittsburgh, New Jersey's Trade Adjustment Assistance Center,

the (N.J.) Governor's Commission on Science and Technology, the United Nations Fund for Science and Technology for Development and various electronics firms.

Before going into business, Dr. Bearse served in responsible positions in all three sectors of the economy - public, private and non-profit/academic. These include:

- Director of Economic Development at Public/Private Ventures, Inc.(1980-82);
- Visiting Associate Professor of Economics at the City University of New York (1979-1980);
- Associate Director of the Center for New Jersey Affairs, Research Associate and Lecturer, The Woodrow Wilson School of Public and International Affairs, Princeton University (1976-79);
- Staff Director for the Governor's Economic Policy Council, State of New Jersey (1972-1976);
- Project Director, New Communities Project, Center for Urban Development Research, Cornell University (1970-1972); and
- Economic Development Planner, City of Newark (1967-1968).

Long-term relationships with certain organizations also help to characterize Dr. Bearse's career. These include active affiliations with the:

- American Association for the Advancement of Science;
- Regional Science Association;
- New York Academy of Science;
- The Society of Manufacturing Engineers (senior member);
- The Institute for Electrical and Electronics Engineers;
- Gloucester Fisheries Association (executive board); and the....
- National Business Incubation Association (research committee);

The orientation of these to science, technology and industry is no accident; it reflects concerns for these matters which have been nurtured since childhood, influenced by a father who had been trained at MIT as an engineer. Indeed, Peter has made MIT's motto his own: "Mens et Manus", or "Mind and Hands," signifying the simultaneously scientific and craftsmanlike approach of DSC and PBA to every piece of work.

Dr. Bearse was honored in 1976 by his selection to participate in a national study group on "American Values and Human Habitation" chaired by Margaret Mead for the American Association for the Advancement of Science. Likewise, he was selected in 1984 to be a member of the Task Force on Capital for New Technology of the Governor's Commission on Science and Technology, as well as to provide professional counsel to another task force on technology transfer.

Also in 1984, he was nominated to run for the United States Congress (House of Representatives, 12th District, N.J.). He served as an elected member of the Borough Council of Princeton, N.J., from 1982 to 1984. He also served as an elected member of the Princeton Joint Consolidation Study Commission and Co- Chair of its Fiscal Impact Committee. During 1990 and 1991, he was a Member of the City Council of Gloucester, Massachusetts, elected at-large.

Dr. Bearse is frequently invited to speak at professional meetings or conferences on such topics as entrepreneurship, urban or regional economic development, business development, productivity improvement or technology transfer. He has also been invited to testify on such matters before various legislative bodies or commissions.

His many publications include two books: (1) **Mobilizing Capital**: The Emerging Public/Private Interface in Development Finance, Elsevier (1982) and (2) **Services: A New Look at the U.S. Economy** (with Thomas Stanback).

See Dr. Bearse's extensive "Publications List" for further details. Some of his publications have been used for several years in urban economic development planning workshops conducted at Harvard, M.I.T and other schools.

Dr. Bearse earned an M.A. and Ph.D. in economics, with high honors, from the New School for Social Research, following undergraduate training in history and mathematics at Harvard College.

He is married to June Lavelle and has five children. He and his wife sometimes work as a team on select business incubation or small enterprise development projects.

Basic Data

Language proficiency: German - reading, some speaking
Russian- slight speaking and reading

Diana F. de Treville

Key Qualifications:
Dr. de Treville is particularly experienced in project design and evaluation. Over the past 15 years, she has traveled extensively in Africa and the Middle East and completed more than 30 international work assignments and consultancies for some 25 development agencies, institutes, and PVOs. She has presented several papers on technology transfer issues, and has advised the National Academy of Science on research and technology transfer linkages. Her expertise covers a broad range of project components, including agroforestry and the role of women in agricultural production systems. She has participated in a comprehensive assessment of PVO performance in agroforestry; served as senior analyst in a review and analysis of small-scale enterprises; evaluated and written on small farmer credit, the particular problems of nomads, and extension mechanisms. Dr. de Treville has developed and administered agricultural training modules in support of institutional development. She is the author of more than 80 professional articles, invited papers, and lectures. Her extensive field experience has provided insights and capabilities which allow her to understand the fundamental challenges of development and evaluation of development projects.

Education:

Ph.D.	University of California (social anthropology), Berkeley, 1987
M.A.	University of California (social anthropology), Berkeley, 1977
B.A.	University of Washington (near eastern studies, anthropology -- honors), 1978

Experience:

1990-Present **Program Officer**, Winrock International Institute for Agricultural Development, Arkansas. Provides technical and managerial support to programs and projects; assists program development and review; and develops programs in agricultural extension and technology transfer. As regional representative currently based in Nairobi, she has continuing responsibilities for program/project implementation.

1988-1990 **Field Studies Director/Monitoring and Evaluation Specialist,** Winrock International, Sudan Reforestation and Antidesertification Project, El Obeid. She was directly involved with baseline studies, data base creation, and participatory development which allowed the rehabilitation component and inventory component to encourage woodlands resource users to take an active role in management.

1980-1988 **Self-employed.** Held several short-term positions and provided technical services to FAO, USAID, the World Bank, and the Ford Foundation including the following:

Evaluated agroforestry and extension projects in eastern and western Africa for the World Bank/Environmental Unit (1988)

- Designed credit, training, and marketing component of a large credit and agricultural enterprise project for USAID/Cairo (1988)
- Senior Training Specialist for agricultural sector investment unit, USAID/Guinea. Develop and administer select training modules for the Agricultural Investment Center, Guinea. Develop specific components for a 6-month training course for senior staff of the center (1988)
- Agribusiness and Data Systems Management Specialist for USAID/Sudan project. Design of agricultural policy and statistics project directed at improving data collection and analysis for policy development (1988)
- Senior Analyst on fuelwood-based small-scale enterprise (SSE) development, Natural Resource Division, FAO. A major review and analysis of small-scale enterprises focusing on gender and fuelwood-based small enterprises (1987-1988)
- Provided technical skills to USAID/Bureau of Science and Technology in areas of natural resource management in sub-Saharan Africa, contract farming and agroindustrial development. Coordinated with World Bank and FAO staff on contract farming and agribusiness projects (1986-1987)
- Designed a comprehensive impact evaluation study of the Blue Nile Rural Integrated Development Project for USAID/Sudan. Project focused on credit, marketing, and extension-training and delivery project (1985)
- Evaluated the extension component, institution-building capacity, and socioeconomic impact of the Refugee Reforestation Project for USAID/Sudan. Project designed to establish forest nurseries and plantations, and associated extension program, to increase wood for fuel and construction purposes (1985)
- Principal Investigator for the Small- and Off-farm Enterprise Study, a 14-month study of production and marketing of grain, bread, dairy animals, and dairy products. Wrote on fuelwood production relative to bread production, gender roles, conducted workshops, trained and supervised enumerators and research assistants, did household and local market studies, designed research parameters, conducted case studies. Study was sponsored by the Ford Foundation and the International Food Policy Research Institute (1981-1983)
- Served as project manager for the Sahelian Research Social Services Delivery and Extension Training/Medical Services Delivery Project, USAID/Egypt. Did research and supervised research on nomadic groups in eastern desert region of Egypt and northern Sudan (1980-1983)
- Served as evaluation specialist for Ford Foundation programs in Sudan focusing on women, income generation, and fuelwood issues. Participated in workshops on women and the environment. Developed recommendations for future women's program (1981)

1977-1980 **Graduate Student**, University of California, Berkeley. Conducted dissertation research on Family and State in Egypt.

1973-1977 **Senior Museum Anthropologist**, Lowie Museum of Anthropology, University of California at Berkeley. Full-time during summer and half-time during school while working towards advanced degrees.

RICHARD P. SOLLOWAY

EXPERIENCE:

SOLLOWAY & ASSOCIATES, INC.

1989-Present: Founder and President, Solloway & Associates, Inc.

- Developed guidelines, established organizational responsibilities, and streamlined the procedures for managing over 35 grants and contracts totalling more than $100 million.
- Reviewed 65 project evaluations and synthesized the key issues and lessons learned.
- Developed an analytical framework and evaluated results to determine whether 29 universities were in compliance with the various financial and management requirements of their grants.
- Developed and conducted training workshops for program directors on managing and implementing federal grants of less than $25,000.
- Analyzed the existing level of financial and management oversight for a $1.6 billion project portfolio encompassing 770 grants and contracts. Developed policy guidelines which enhanced oversight and minimized risk.
- Advised clients on contract close-out and invoicing procedures related to U.S. Government grants and contracts.
- Developed a training manual and conducted a one-week training course for A.I.D. auditors.
- Coordinated and arranged facilities, materials, hotel rooms, etc. for several international programs.

AGENCY FOR INTERNATIONAL DEVELOPMENT

1986-1989 **REGIONAL CONTROLLER,** Mbabane, Swaziland

- Directed the start-up and rapid expansion of a regional accounting center

serving four locations. Minimized staff increases by installing a computerized accounting system, streamlining administrative procedures, and initiating employee training programs. Efforts resulted in being awarded A.I.D.'s highest award, the Distinguished Unit Citation.

- Served as senior financial advisor in negotiations with foreign governments, U.S. government agencies, private companies, and government contractors. Member of various contract-award Technical Review Committees.

- Worked directly with executive directors of non-profit organizations to establish organizational goals, program planning, financial budgets and administrative policies and procedures. These efforts resulted in U.S. Government funding exceeding $20 million.

- Established financial and administrative policies and controls, and wrote related office manuals and procedures.

- Established financial and management requirements and accountability for new grant agreements.

1985-1986 **ASSISTANT CONTROLLER,** Washington Accounting Operations Division

- Directed consolidation of two major divisions involving over 40 personnel. Wrote position descriptions for new division. Reduced overall space and cross-trained personnel which increased productivity.

- Supervised comprehensive financial management services to 25 offices with budget of $70 million.

- Successfully directed, ahead of schedule, initial start-up and operations of an over-designed computerized accounting system eight years in development. Recommended system be canceled, an action that was subsequently taken.

1982-1985 **DIRECTOR, Overseas Computerized Accounting Operations,** Washington, DC

- Directed growth of A.I.D.'s computerized overseas accounting system (MACS) from initial test site to installation and operation in over 50 worldwide locations. Established policies governing installation and maintenance. System still operational and used as model for other systems.

- Formulated policies and procedures for governing worldwide use of accounting system which was accepted by the Office of Management and Budget (OMB) and the General Accounting Office (GAO).

- Member of various personnel panels for new hires and employees' evaluations. Served as A.I.D. recruiter at two annual sessions of the National Conference of the Association of Black Accountants.

1981-1982 **CONTROLLER - ASIA BUREAU,** Washington, DC

- Identified unique way to save over $10,000 for a 70-person international conference.

- Maximized scarce resources by reallocating a $16 million administrative budget among 35 cost centers. Decentralized accountability and focused responsibility on senior management.

- Prepared various programming documents submitted to congress which resulted in authority to revise programming activities.

1979-1981 **CONTROLLER,** Accra, Ghana

- Member of senior management team for 15 projects with a program level of $35 million. Provided counsel on financial and legislative matters governing project implementation.

- Prepared administrative budgets of $3.0 million with actual expenses within one percent of forecasts.

- Streamlined cffice operations by consolidating duties and eliminating duplicate records.

1975-1979 **CONTROLLER, DEPUTY CONTROLLER, FINANCIAL ANALYST,** Panama

- As Project Manager for an $8.7 million cooperative loan, worked closely with project recipients which accelerated disbursements so that project was completed on schedule.

- As liaison between GAO, Inspector General (IG) auditors and A.I.D. management, generated constructive dialogue leading to a better understanding of the issues and more objective audits.

- Conducted financial analysis for $9.5 million comprehensive rural health delivery system project and analyzed the capabilities of the Ministry of Health and the Social Security System to integrate into one system.

- Redesigned a $2 million farm equipment rental and maintenance program which enhanced cash flow and financial viability.

1973-1975 **BUDGET AND ACCOUNTING OFFICER,** Quito, Ecuador

- Managed $1.0 million administrative budget and instituted cost center accountability which resulted in a five percent savings.

1971-1973 **ACCOUNTING OFFICER,** Washington, DC

- Standardized and reduced by 10 percent the chart of accounts for a manual loan accounting system with 2,000 loans. This resulted in more accurate and uniform reports and improved loan portfolio management. Wrote specifications to automate cash journals and general ledgers.

U.S. AIR FORCE AUDIT AGENCY

1965-1971 **Senior Auditor**

- Briefed senior officials and performed over 75 management audits.

EDUCATION:

MBA, University of Alabama, 1968, Honors: Beta Gamma Sigma
BS, Business Administration, University of Florida, 1965

CERTIFICATION: Certified Internal Auditor, Nr. 2291

PROFESSIONAL AFFILIATIONS:

Association of PVO Financial Managers

Society for International Development
Institute of Internal Auditors
Association of Government Accountants

PUBLICATIONS:

Richard P. Solloway, "Mission Accounting and Control System", Front Lines, May 1986, p. 16.

TEACHING EXPERIENCE:

Economic Instructor, McMurray College, 1970
Public School Teacher, Miami, Florida, 1971

LANGUAGE:

Spanish - FSI, R-3, S-3