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**AskARIES FIELD TEST
Final Report**

**Charles K. Mann, Team Leader
Anne Hornsby
Rajesh Pradhan
Amy Sanders**

Harvard Institute for International Development

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EXECUTIVE SUMMARY

Summary and Overview of Field Test Results

As a part of the ARIES Project to help strengthen the capacity of resource institutions to support small and micro-enterprise development (SMED), the Harvard Institute for International Development created the *AskARIES Knowledgebase*, a computer-based information resource for organizations and individuals working on SMED. On one level it serves as an annotated bibliography, containing summaries of core documents from the SMED literature. A more innovative feature, however, is its presentation of information selected and organized according to a hierarchy of "recurrent problems" faced by SMED resource institutions. This problem-solving orientation is intended to enhance its usefulness to field practitioners in SMED.

In order to introduce the *AskARIES Knowledgebase* to AID and Peace Corps Staff and to obtain their ideas on its current usefulness and possible future development, HIID staff visited seventeen AID and Peace Corps offices in twelve countries. Using a standardized approach and survey instrument, feedback was obtained on four major aspects of *AskARIES*: ease of installation and use of Notebook II (the software underlying *AskARIES*); information content; usefulness/adaptability; and future features. The results in detail are presented in the body of the report following this summary.

Ease of Installation and Use

Even though *AskARIES* was completely new to all field testers, there were no significant problems in installing and using the system. On a scale from 1 to 5 used in the survey (5 being the highest), average scores on these questions ranged from 4.0 to 4.5. While the Notebook II textual database manager used by *AskARIES* has some "non-intuitive" command and control features, it is a system that is relatively simple and easy to learn. Testers had few problems in using it, including using it to create their own databases (average score 4.0). The most difficult concept for new users to grasp was the "view," basically a means of marking and displaying separately those records meeting certain user-selected search criteria (average score 3.9).

The *User's Guide* generally was regarded as useful (overall score 3.7). The most conspicuous gap was lack of guidance on custom printing, covered only by references to the Notebook II manual. (While all of the necessary information is presented there, it is not very well organized.)

Information Content

The quality of the document summaries scored an average of 3.9, the problem statements 3.4, and analyst comments 4.0. Considering AID and Peace Corps separately, the average scores given by Peace Corps staff tended to be higher than those given by AID on document summaries and analyst comments, whereas on research usefulness AID gave higher scores, and problem discussions received equal scores (see Table 9).

Usefulness/Adaptability

The scores for usefulness to own organization averaged 3.8, with Peace Corps ratings exceeding AID's (4.1 to 3.3). Usefulness to local institutions was substantially lower (2.9) with comments suggesting that this was due largely to the lack of English speakers in these organizations.

"First Impressions" vs. Longer Use

In addition to information collected during the HIID field visits, testers were asked to respond to the "usefulness and applicability" questions again several weeks later, after they became more experienced with *AskARIES* (Part B of the Survey Instrument). This was to see how perceptions might change with greater familiarity with the system. Taking the set of 13 pairs of responses where the same tester answered both Part A and Part B (see Table 8), the changes were as follows: problem discussions 3.2 to 3.5; document summaries 4.0 to 3.9; analyst comments 4.1 to 3.5; usefulness for research 4.1 to 3.9; usefulness to own institution 3.7 unchanged; and usefulness to local institution 3.3 to 3.2.

Future Features

AID sponsors of the field test were interested particularly in the responses to questions about possible directions for further development. The overwhelming response was that updates were essential to the longer-term viability of *AskARIES* (average score 4.5). Compared to updates, there was relatively less interest in such improvements as keyboard or keyword aids (3.8), online help (3.5), full-document retrieval with compact disks (3.1), or interest in use of other software (2.6). With so much current activity in SMED, users saw *AskARIES* updates as a way of staying abreast of new developments.

In addition to the various future developments identified and rated in the survey, one added suggestion merits note in this summary. One field tester observed that really

useful to busy practitioners would be a still greater synthesis of the knowledge already present in *AskARIES*. In addition to the synthesis of the information from particular documents, the next step, he suggested, should be to synthesize the information about a particular problem into a single *AskARIES* record. This could be combined with a more interactive user interface to let the user specify precisely the topic on which he or she desired information. In spirit, this would push *AskARIES* more toward an expert system. However, even this tester did not place such an improvement above updates as the priority *AskARIES* investment.

Presentation of Field Test Results at ARIES Workshop

To assist in presenting *AskARIES* and the results of the field survey to various groups, an *AskARIES* "case" was developed around the field test objectives and results. This was used as a vehicle to present the field test results to participants at the ARIES Workshop in Washington on March 8, 1990.¹

Entry of Peace Corps as Potentially Large AskARIES User Group

In terms of potential users of *AskARIES*, the original "target audience" was staff in the resource institutions, largely private voluntary organizations (PVOs) whose capacity the ARIES project was intended to enhance. Since the project's inception in 1985, the Peace Corps has emerged as one of the largest SMED program sponsors, with large numbers of volunteers involved in SMED programs. Thus, it is perhaps not surprising that substantial enthusiasm for *AskARIES* in the field test came from the Peace Corps, with *AskARIES* seen as a key resource for volunteers working in SMED. In addition to its information content, *AskARIES* represents a potential framework for collecting and exchanging lessons learned by volunteers. Peace Corps volunteers may represent a potentially large unforeseen user group for *AskARIES*.

Updates Essential to AskARIES' Viability

The question of updates is paramount for all user groups, with usefulness declining over time if no updates are available. The resources provided under GEMINI for updating appear insufficient to support a meaningful update capacity.

CHAPTER 1 INTRODUCTION

The ARIES Project and Capacity Development

To assist intermediary organizations in improving their capacity to support more effectively small enterprises, the U.S. Agency for International Development created the ARIES project. Under prime contractor Robert R. Nathan Associates, the project supplies technical assistance, training, and applied research, with HIID bearing principal responsibility for the applied research component. This consisted of a "Strategic Overview Paper," a series of management training cases, and a computerized database.

The HIID team began by working with resource institutions to assess the ways in which existing capacity was regarded as deficient. To facilitate this task, capacity was divided into four broad categories: strategic, administrative, technical, and communications. Through a process of literature review and interviews with management and staff of resource institutions, information was developed on capacity shortcomings within each of these four domains. Operationally, this resulted in a sort of inventory of the problems which the institutions frequently encountered. These problems then were examined for similarities, patterns, and ways in which the problems could be categorized and clustered. The result was a typology of "recurrent problems."

AskARIES Knowledgebase

The purpose of the database was to assist in organizing and analyzing the large amount of information available within the literature relevant to small enterprise development programs. The database management program Notebook II was selected to manage the large volume of text, as it has almost unlimited text capacity, is relatively simple to learn and use, and is inexpensive.

The idea of "recurrent problems" proved to be a powerful concept around which to organize the database so that information could be related effectively to the project's capacity development mission. Specifying problems led to inquiry as to the causes of the problems, directions in which solutions might lie, and implications for the project -- particularly with respect to training. This problem-solving orientation gave to the database a character very different from the traditional annotated bibliography, although it does contain document summaries as well. However, much of its utility was expected to derive from its problem focus, not from its conventional bibliographic document summaries. Its emphasis on problem solving gives it much in common with the knowledgebase component of an expert system, hence its title.

While the project called for delivery of the database only to USAID, early feedback from the small and micro-enterprise development (SMED) community suggested that it would be useful to a wide range of organizations and individuals. To facilitate reaching this wider audience, HIID supplemented ARIES resources to develop the database and its supporting documentation to commercial publication standards. The first step was to organize a "Beta test" of the database and its documentation to try to identify and fix as many potential problems as possible prior to publication. Twelve Beta testers in the SMED community (see Appendix 1) agreed to try out the software, and read and use the *User's Guide* looking for pitfalls or problems. Among other improvements that followed from the Beta testers' experiences was the creation of a semi-automatic installation program that appears to have overcome the many problems these early testers reported in loading the *AskARIES* diskettes onto their hard disks.

Under the title the *AskARIES Knowledgebase*, the database was published in June, 1989 by Kumarian Press of West Hartford, Connecticut. The strategic overview paper and 21 cases also were published by Kumarian Press as *Seeking Solutions: Framework and Cases for Small Enterprise Development Programs*. By the end of the year, approximately 30 institutions had purchased *AskARIES* including USAID which purchased 21 for distribution to AID missions and Peace Corps Offices. (See Appendix 2 for complete list.)

The AskARIES Field Test

In the context of its future programming for small and micro-enterprise development, USAID desired to have systematic feedback from USAID mission and Peace Corps staff on the usefulness of *AskARIES* to them and, more importantly, their views on potential further development, particularly updates, system extensions and improvements. Accordingly, AID asked members of the original HIID *AskARIES* team to conduct a series of field tests with staff of seventeen AID and Peace Corps offices in twelve countries.

Information from the field test was collected by means of the *AskARIES* Survey Instrument, developed jointly by the HIID team and Lee White, Andrea Baumann, and others at USAID. This instrument comprised two parts, Part A was completed during the HIID field visits, and Part B was completed after the field tester had gained more experience using *AskARIES*.

The HIID team member first worked with the field tester to assess the degree of difficulty experienced in installing and using *AskARIES*. Then, given a well-defined, real-world problem from one of the cases in *Seeking Solutions*, the user explored *AskARIES* to "seek solutions" to this problem, formulate judgments as to the quality of the content embodied in *AskARIES* about this problem, and discuss difficulties encountered in carrying out this exercise (substantive and technical). Finally, the HIID team member asked the field tester to reflect on how *AskARIES* might be applied in his or her own institution as well as in local resource institutions active in small enterprise development.

The preliminary findings of the *AskARIES* field test were discussed with AID conference participants during the ARIES Workshop on March 8, 1990 in Washington, D.C. The findings also were reviewed by the ARIES Technical Review Board following the presentation at the Workshop.

Following this introduction, Chapter 2 presents a discussion of the results obtained from the quantitative "opinion scales" used in the survey instrument. Part 1 of the chapter considers responses in aggregate terms to questions on Part A and Part B of the Field Test Questionnaire. Part 2 of Chapter 2 summarizes responses by institutions, and explores changes in respondents' opinions after they had had some experience in using *AskARIES*. Chapter 3 draws upon the qualitative feedback from the testers to summarize what testers liked and did not like about the system. Chapter 4 summarizes testers' views on possible future features, including their relative importance. In Chapter 5, the HIID-ARIES staff distill from the experiences of the ARIES project and the *AskARIES* Field Test some strategic issues involved in strengthening *AskARIES*. The most urgent issue is the need for updates if *AskARIES* is to remain a viable information resource.

CHAPTER 2 FIELD TEST RESULTS: THE OPINION SCALES

In reporting results obtained from the quantitative "opinion scales" used in the survey instrument, Part 1 below considers responses in aggregate terms to questions on Part A and Part B of the Field Test Questionnaire. Part 2 summarizes responses by institutions and attempts to document changes in respondents' opinions after they had had some experience in using *AskARIES*. A series of graphical tables supplements the text.

Part 1: Aggregate Responses

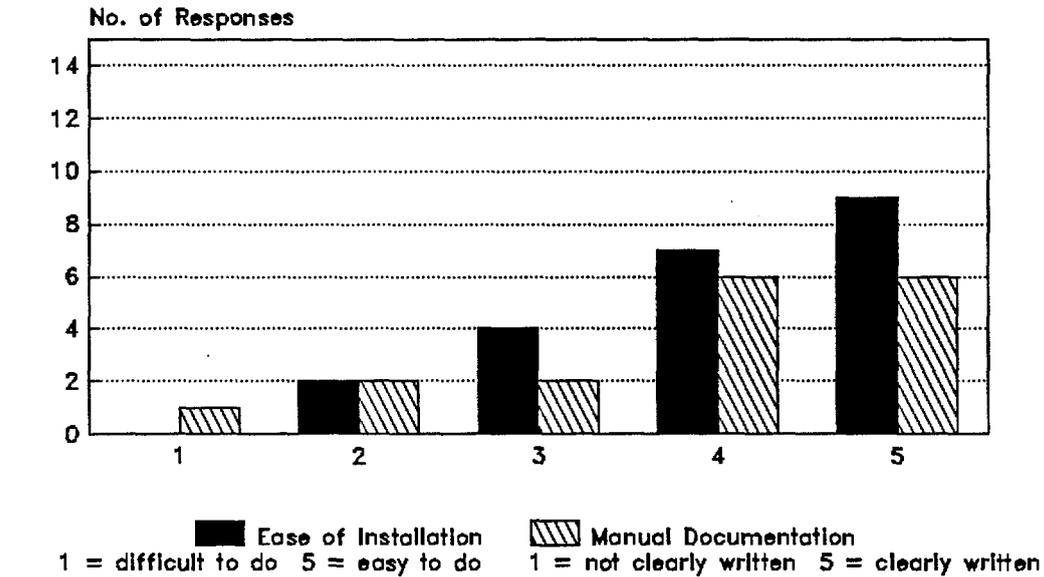
Part A Questionnaire

The Part A field test is divided into three general sections. Questions 1 through 8 probe the ease of installing, accessing, and using the program Notebook II that underlies *AskARIES*, and also seeks evaluation of the clarity and conciseness of the *AskARIES User's Guide*. Questions 9 through 12 address the substance of *AskARIES*: whether users think that the database will be useful for solving problems facing the SMED staff who participated in the field test and whether they think it will be useful for local organizations working in the SMED field. In addition, this section asks for feedback on specific portions of records -- the quality of document summaries, analyst comments, and bibliographic information. The final section of the evaluation, Questions 13 through 16, seeks suggestions for potential future development of *AskARIES*. Responses were solicited on these various topics by means of scales ranging from 1 to 5 to allow testers to express a range of opinion.²

There were a total of twenty-eight field testers. Of these, twenty-one were AID or Peace Corps professional staff, and seven were secretaries and computer department staff in those organizations interested in having support staff trained to pull out information as needed by professional staff. (For the latter, only the first section for these evaluation forms was completed, dealing with installation and ease of use.)

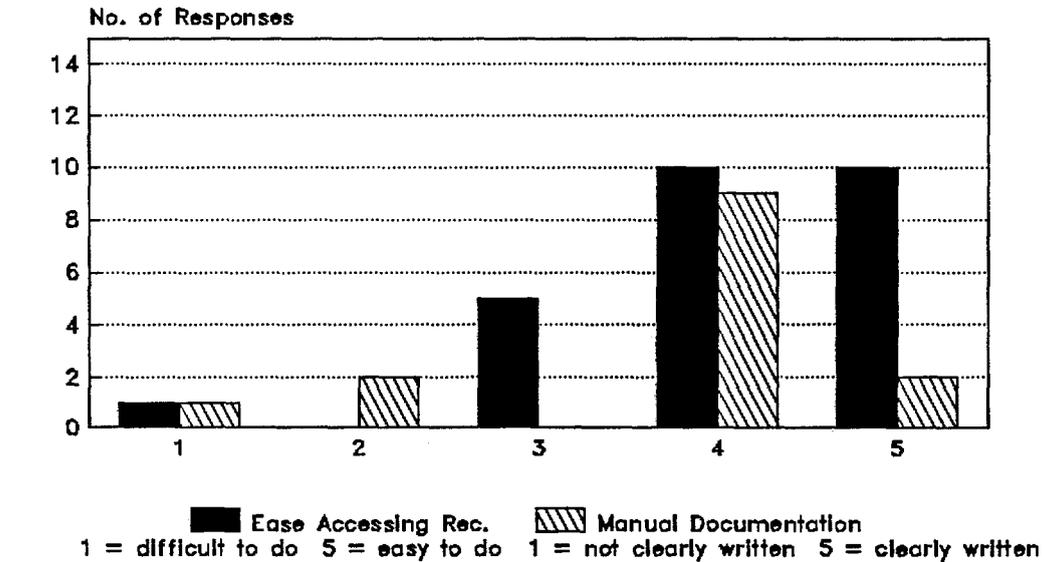
Below is an overview of the results from the opinion scales. Note that the tables presenting the results graphically are numbered according to the questionnaire numbers; e.g., Table A15.2 contains the data from the second part of Question 15 in the Part A evaluation. Table 7 presents average scores for each question.

TABLE A1
Ease of Installation



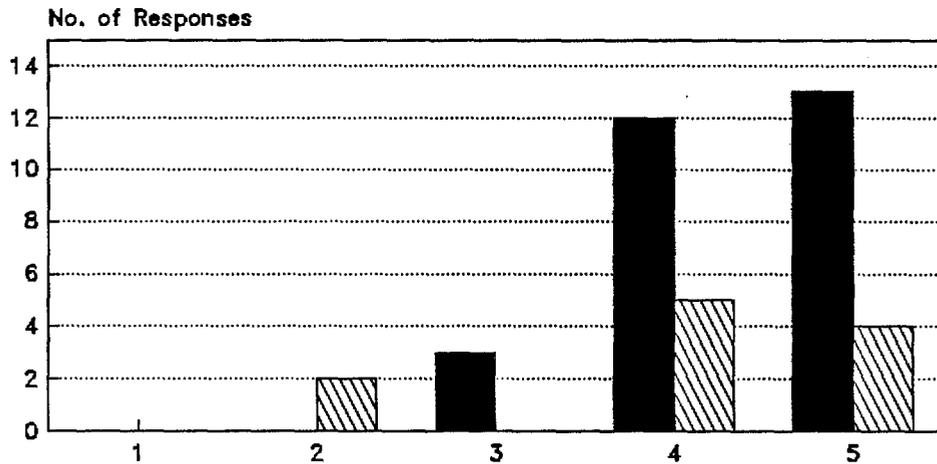
Not Answered:
 Installation = 6 Documentation = 11

TABLE A2
Ease of Accessing Records



Not answered:
 Accessing Record = 2 Document = 14

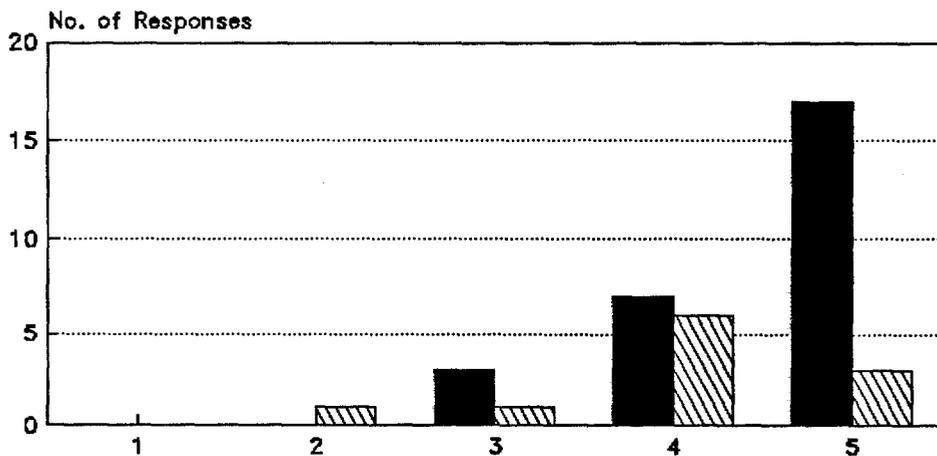
TABLE A3
Ease of Moving within a Record



Moving within a Rec.
 Manual Documentation
 1 = difficult to do 5 = easy to do 1 = not clearly written 5 = clearly written

Not Answered:
Ease of Moving = 0 Documentation = 17

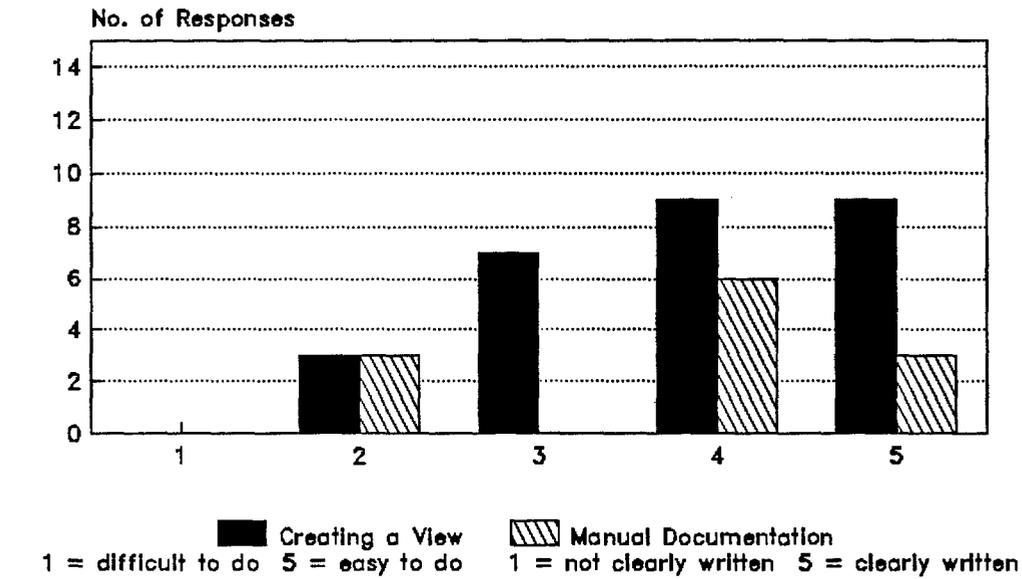
TABLE A4
Ease of Moving between Records



Moving between Recs.
 Manual Documentation
 1 = difficult to do 5 = easy to do 1 = not clearly written 5 = clearly written

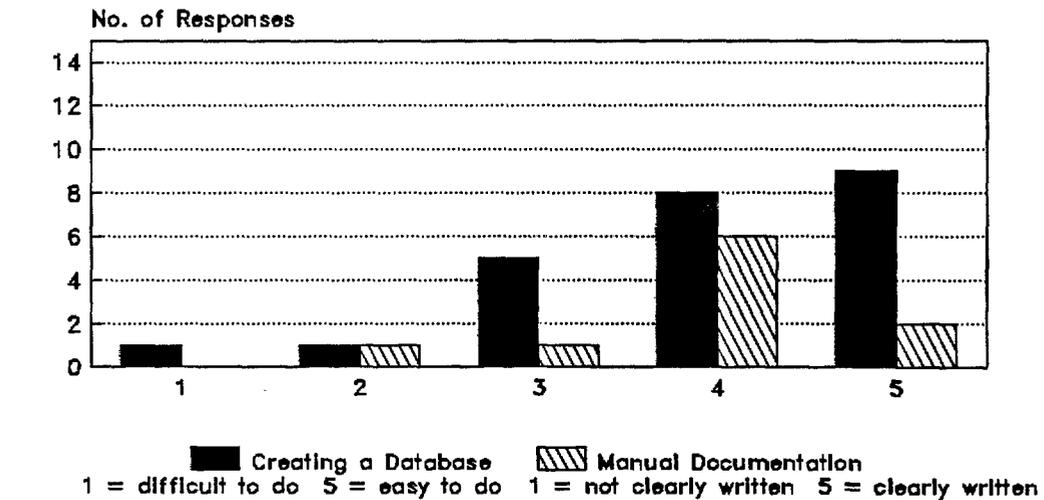
Not answered:
Moving between recs. = 1 Doc. = 17

TABLE A5
Ease of Creating a View



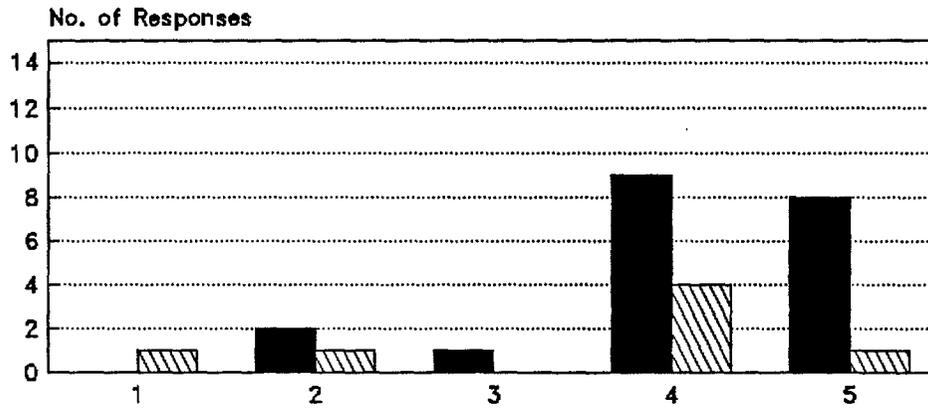
Not Answered:
 Creating a view = 0 Documentation = 16

TABLE A6
Ease of Creating a Database
from View



Not answered:
 Creating a Database = 4 Doc. = 18

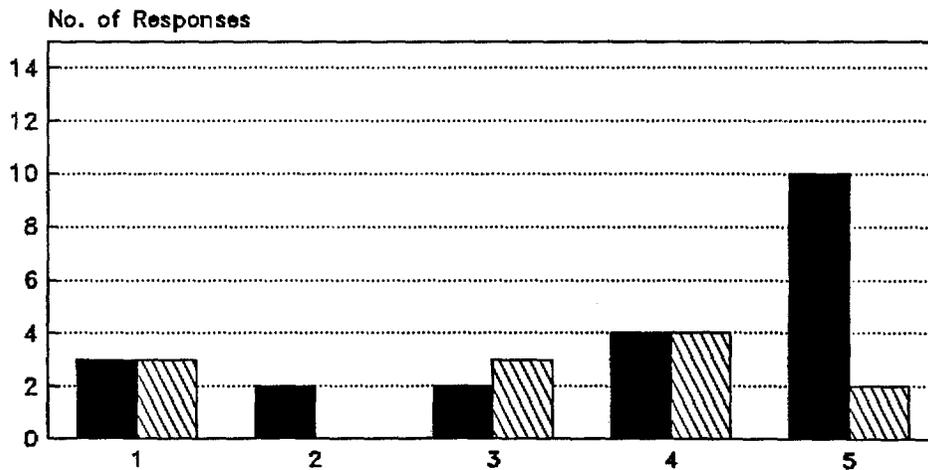
TABLE A7
**Ease of Creating New Records/
 Adding Entries**



Creating New Records
 Manual Documentation
 1 = difficult to do 5 = easy to do 1 = not clearly written 5 = clearly written

Not answered:
 Creating New Records = 8 Doc. = 21

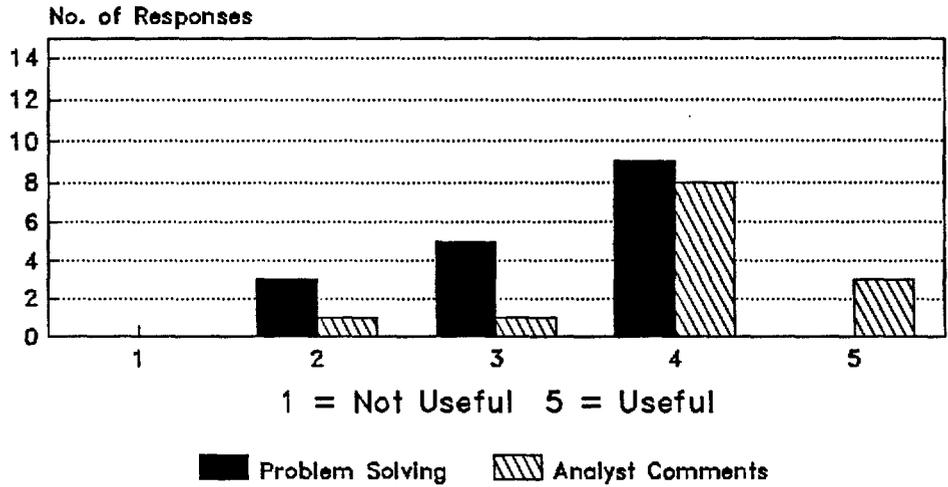
Table A8
Ease of Printing Record



Ease of Printing Rec
 Manual Documentation
 1 = difficult to do 5 = easy to do 1 = not clearly written 5 = clearly written

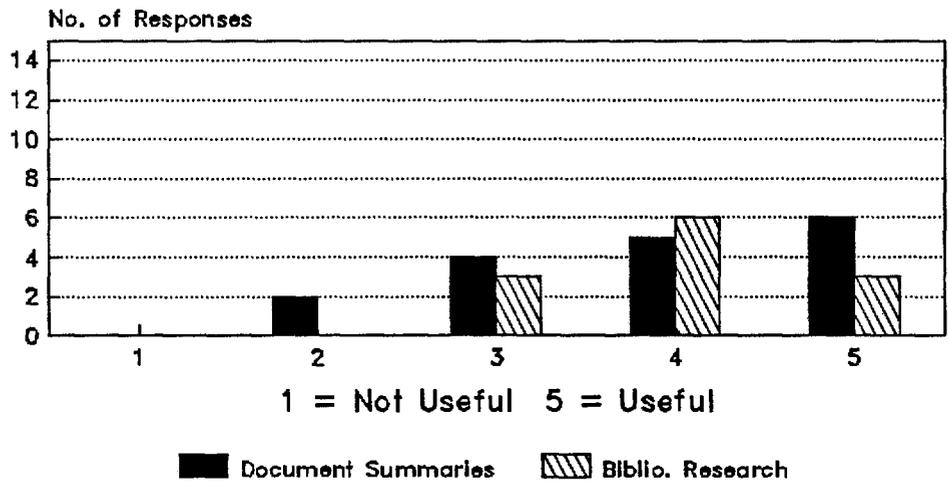
Not Answered:
 Ease of Printing Rec. = 7 Doc. = 16

TABLE A9
Usefulness for Problem Solving
and Usefulness of Analyst Comment



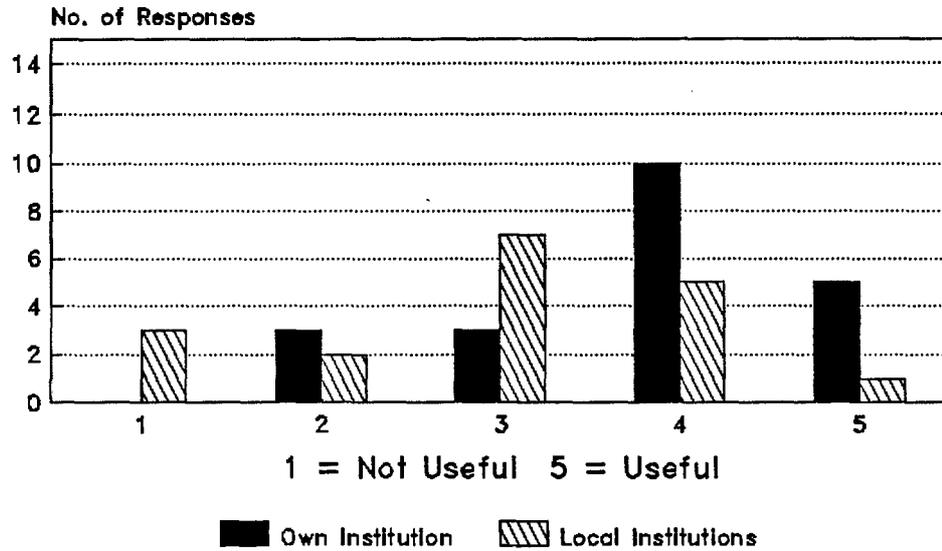
Not Answered:
Problem Solving = 4 Comments = 8

TABLE A10
Usefulness of Summaries and
Bibliographic Information



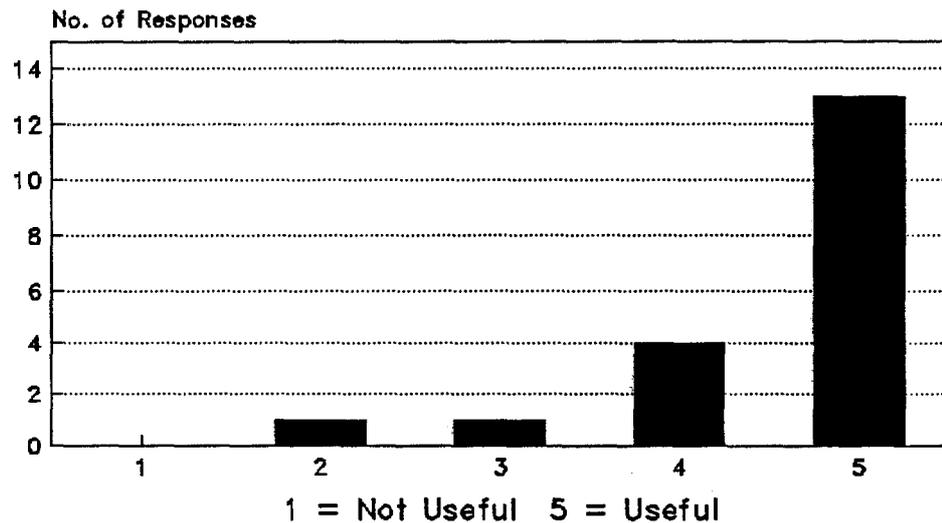
Not Answered:
Doc. Summaries = 4 Biblio. Res. = 9

TABLE A11-12
Use/Applicability to Institutions



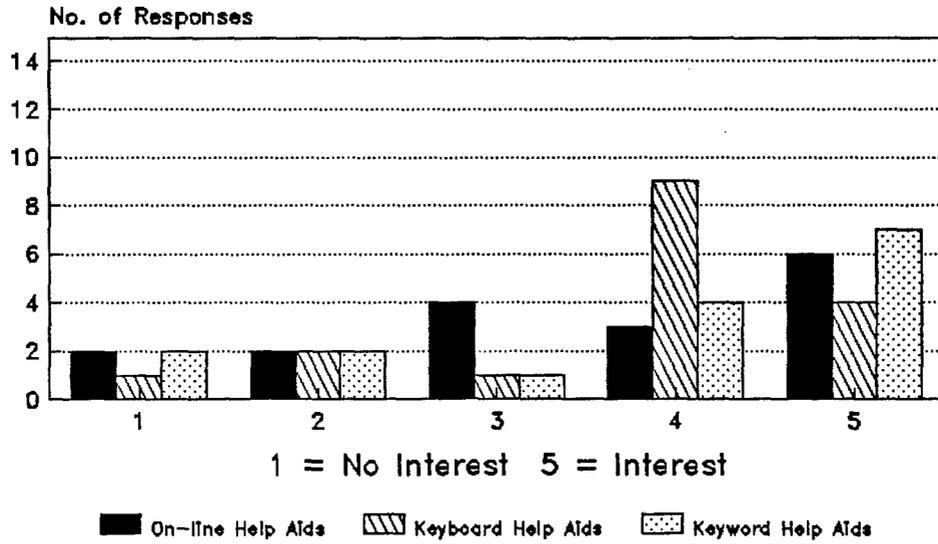
Not Answered:
Own Inst. = 0 Local Inst. = 3

TABLE A13
Usefulness/Necessity of
AskARIES Updates



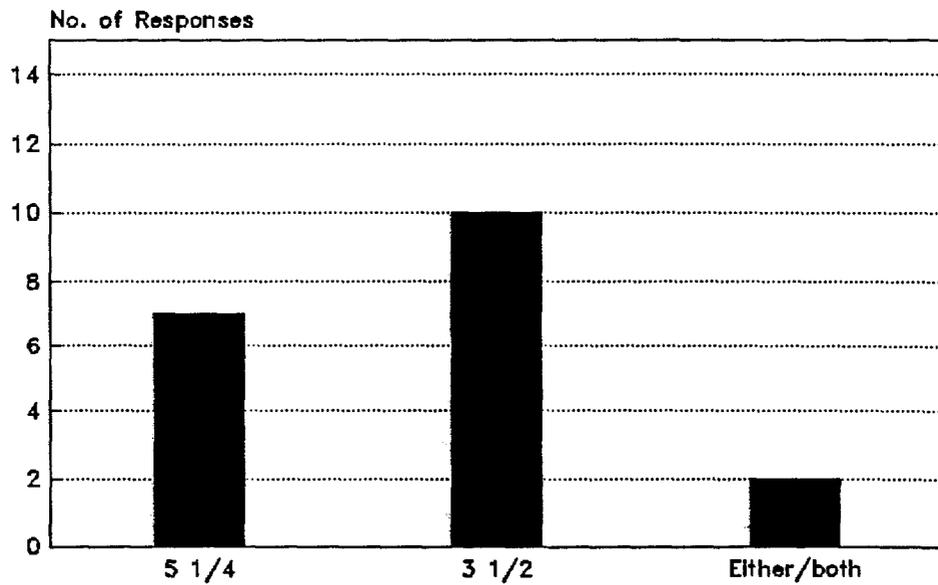
Not Answered = 2

TABLE A14
Future Features



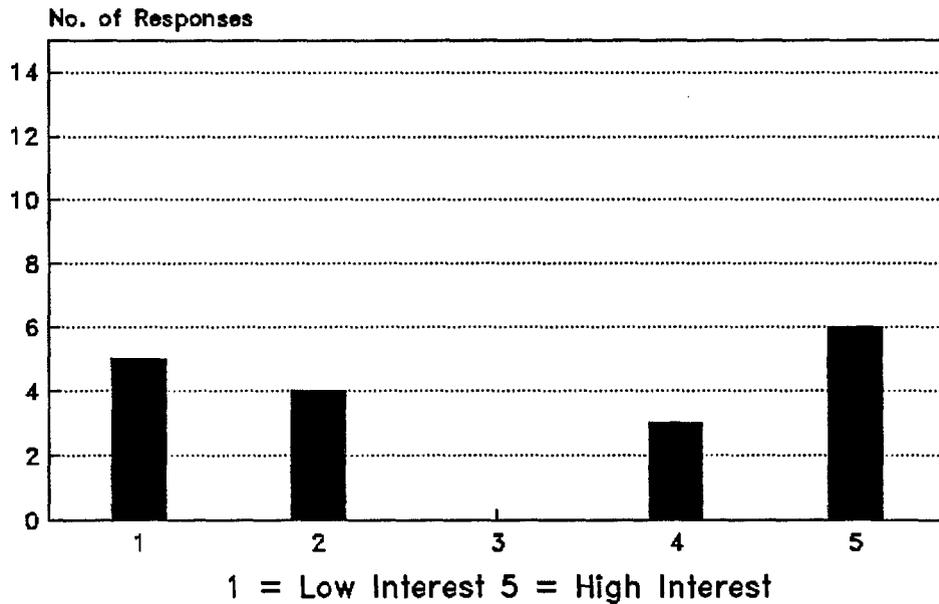
Not Answered: On-line Help = 4
Keyboard Help = 4 Keyword Help = 5

TABLE A15.1
Disk Drive Preference



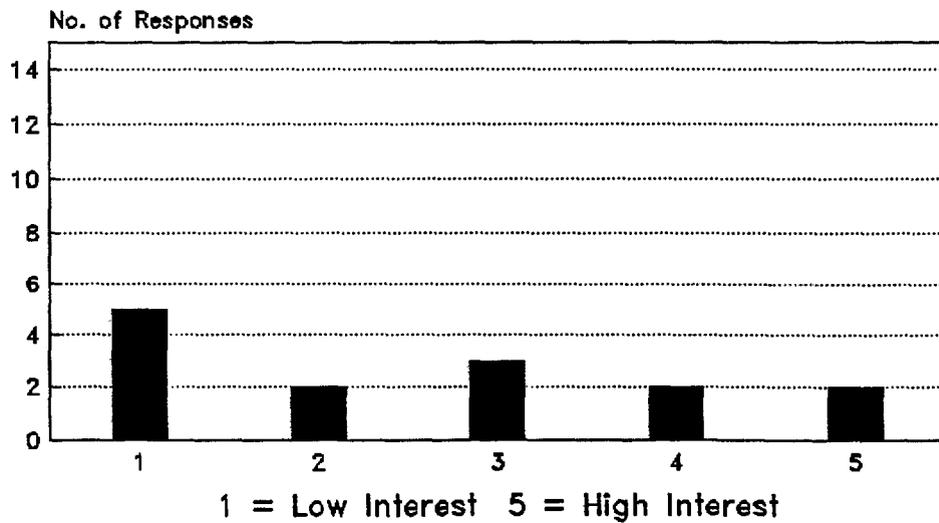
Not answered = 2

TABLE A15.2
Interest in Full Document Retrieval



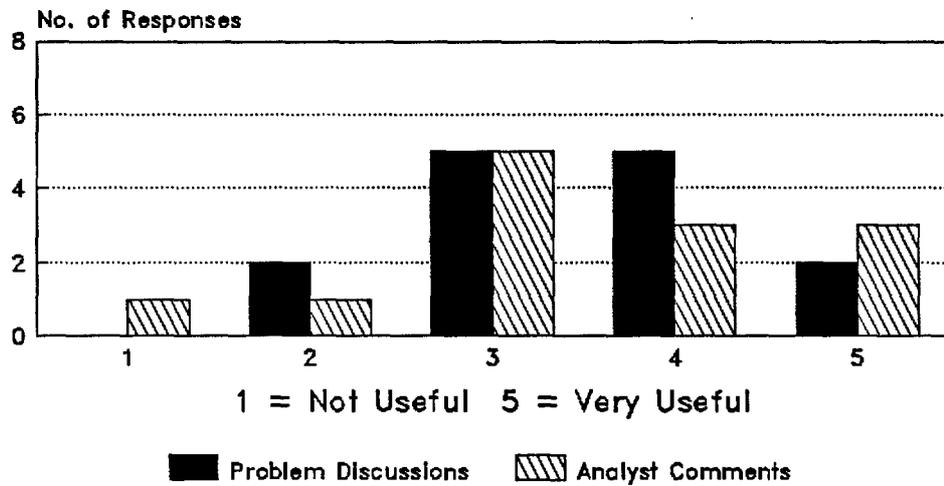
Not answered = 3

TABLE A15.3
Interest in Use of Other
Software with AskARIES



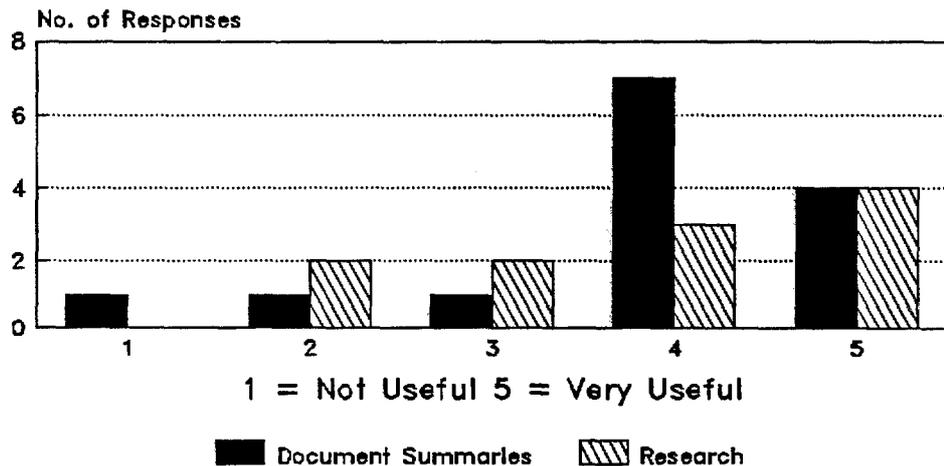
Not answered = 7

TABLE B1-3
Usefulness of Problem Discussions
and Analyst Comments



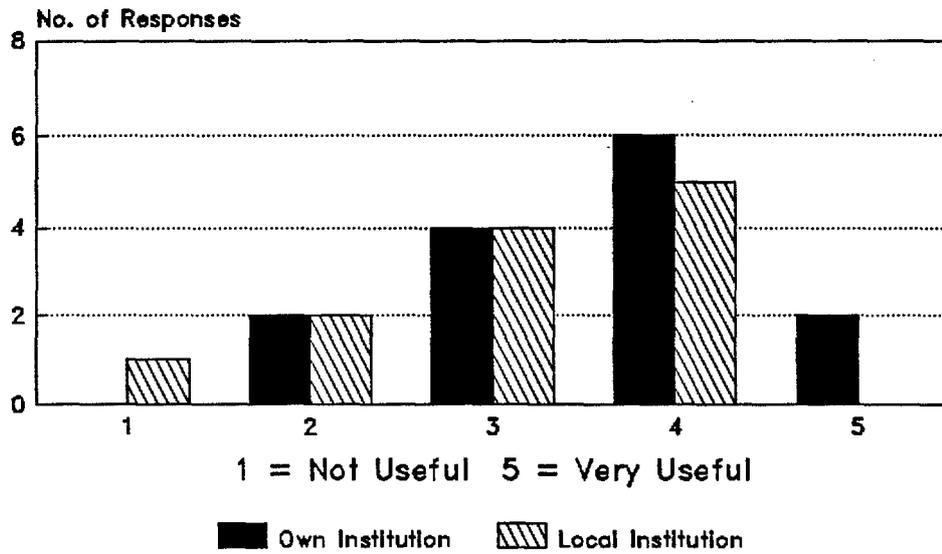
Not answered:
Problem Dis. = 0 Analyst Comments = 1

TABLE B2-4
Usefulness of Document Summaries
and Usefulness for Research



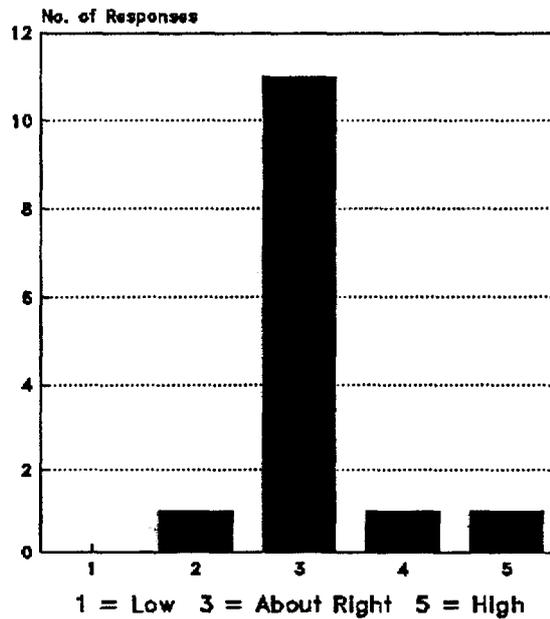
Not answered:
Doc. Summaries = 0 Research = 3

TABLE B5-6
Use/Applicability to Institutions



Not Answered:
Own Inst. = 0 Local Inst. = 2

TABLE B8
Price



Not Answered = 0

Table 1
Usefulness of Problem Discussions

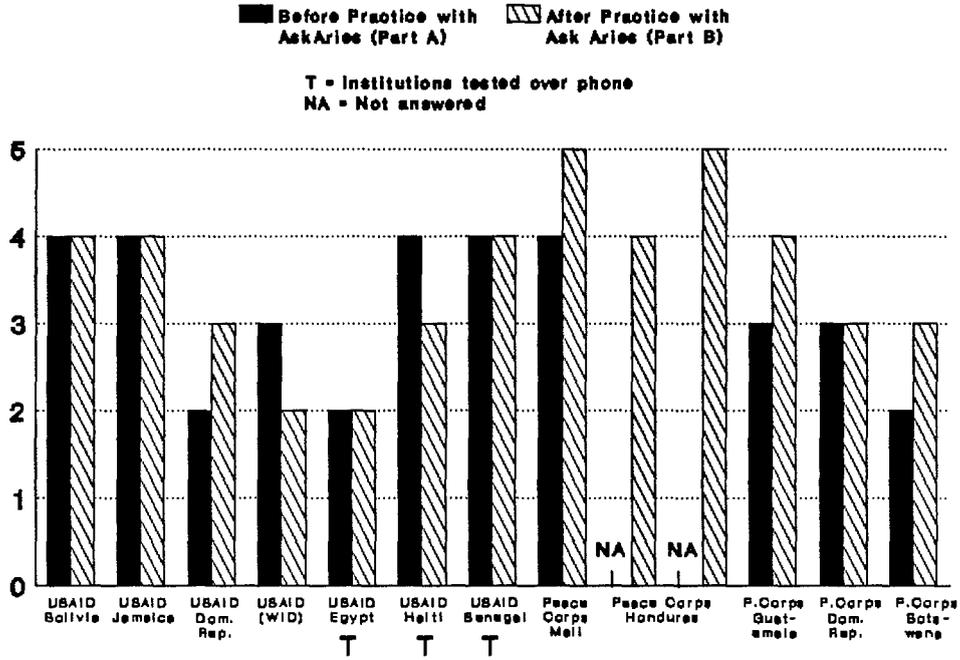


Table 2
Usefulness of Document Summaries

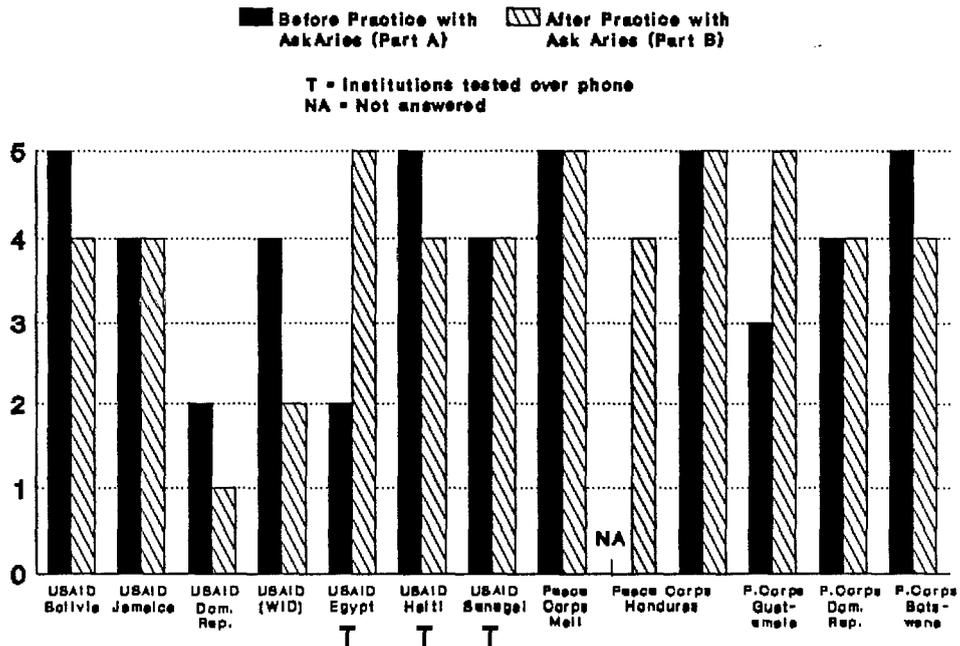


Table 3
Usefulness of Analyst's Comments

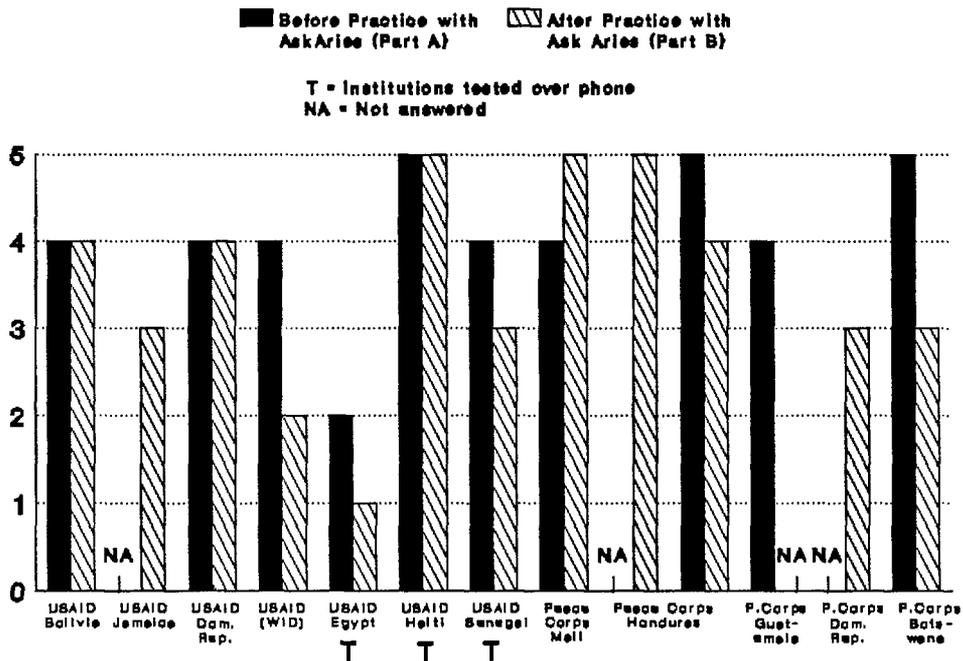


Table 4
Usefulness for Researcher

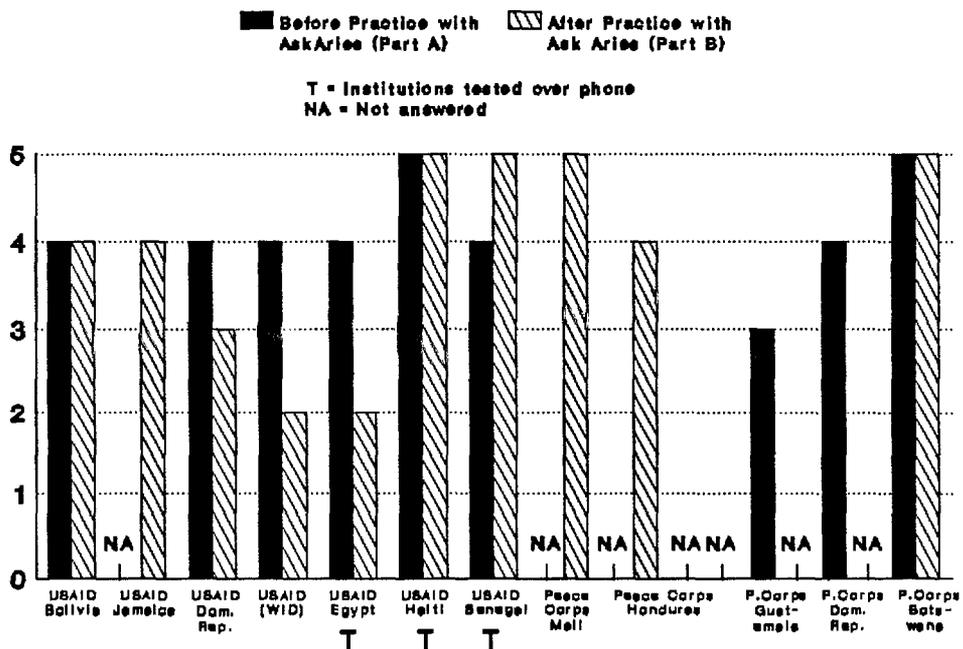


Table 5
Usefulness to Institute Being Tested

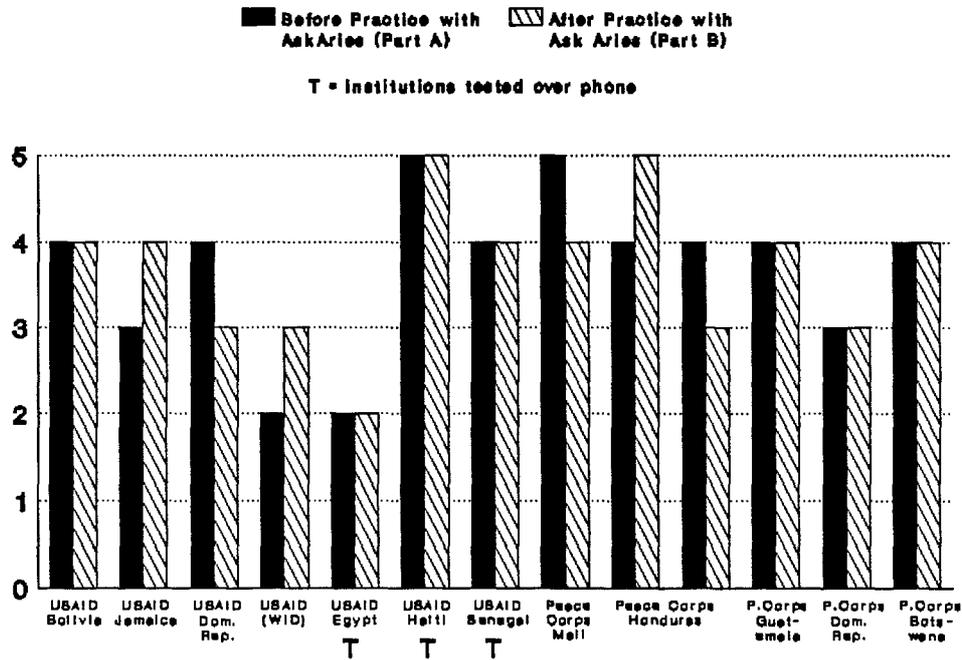


Table 6
Usefulness to Local Institution

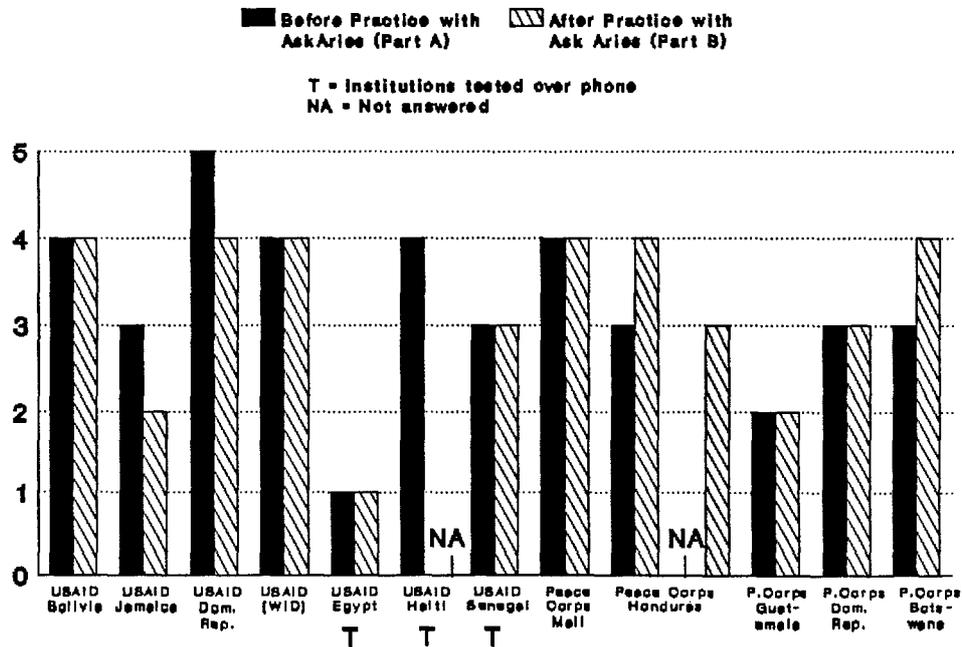


Table 7
Average Score by Question
All Respondents

<u>Part A Evaluation</u>	<u>Average Score</u>	<u>Sample Size¹</u>
1. Ease of installation	4.0	22
2. Ease of accessing records	4.1	26
3. Ease of moving within a record	4.4	28
4. Ease of moving from record to record	4.5	27
5. Ease of creating a view	3.9	28
6. Ease of creating a database from a view	4.0	24
7. Ease of creating new records/adding entries	4.2	20
8. Ease of printing records	3.8	21
9. Usefulness for problem solving	3.4	17
9A. Usefulness of analyst comments	4.0	13
10. Usefulness of document summaries	3.9	17
10A. Usefulness for bibliographic research	4.0	12
11. Use/Applicability to own institution	3.8	21
12. Use/Applicability to local institutions	2.9	18
13. Usefulness/necessity of <i>AskARIES</i> updates	4.5	19
14. Future Features (on-line help)		
14A. Interest in on-line help aids	3.5	17
14B. Interest in keyboard help aids	3.8	17
14C. Interest in keyword help aids	3.8	16
15. Future Features (technology)		
15A. Interest in CD ROM capability	3.1	18
15B. Interest in use of other software	2.6	14

Table 8
Average Score by Question
Paired Sample²

<u>Question</u>	<u>Part A</u>	<u>Part B</u>
Usefulness for problem solving	3.2	3.5
Usefulness of analyst comments	4.1	3.5
Usefulness of document summaries	4.0	3.9
Usefulness for research	4.1	3.9
Use/Applicability to own institution	3.7	3.7
Use/Applicability to local institutions	3.3	3.2

¹ The maximum sample size is 28 for Questions 1-8 and 21 for Questions 9-15.

² Compared to the 21 field testers answering all of Part A, this sample includes only the 13 pairs where the same tester answered both Part A and Part B.

As shown on Tables A1 through A4, field testers found it easy to install *AskARIES* and move around in the database with the basic Notebook commands. Generally the guide itself received favorable ratings, although there were several testers who thought the documentation was not clear enough. The number of testers experiencing difficulty increased when it came to creating "views" of the *Knowledgebase*. As shown in Table A5, only about half found it easy to create a view, with the rest experiencing varying degrees of difficulty. The written comments on problems encountered creating views ranged from confusion with the Notebook commands (e.g., why "select" instead of "view" to create a view, and when to use arrow keys, tab key, and space bar) to difficulties knowing which *AskARIES* keywords to use to find the kind of records users wanted. Finally, Tables A6 through A8 show that users found it easy to create a new database and enter new records, and the majority found printing easy to do. To the extent that printing was found difficult, the comments reveal that the problems were related to creating custom print formats in Notebook II, a subject covered only in the Notebook II documentation, not in the *AskARIES User's Guide*.

The second section of questions addresses the substance of *AskARIES*. In this category the most highly rated features were the document summaries (3.9) and usefulness for bibliographic research (4.0). For the distribution of scores, see Table A10. Usefulness for problem solving was rated 3.4 overall and analyst comments 4.0. Table A9 shows the distribution of scores.

Turning to Table A11-12, most testers rated *AskARIES* as quite useful and applicable to their institution (average 3.8). The written comments reveal interesting and important clarifications to this favorable response (see Chapter 3 for qualitative responses). There was a general consensus that *AskARIES* is most useful to: (a) staff doing hands-on project management (including Peace Corps volunteers), especially those who are relatively new to the field of SMED; and (b) to academically-interested staff and research/proposal-writing units. *AskARIES* was believed to have less utility in its present form to professional staff with substantial SMED experience. The applicability to local institutions was given mixed ratings and a range of comments. One salient issue was limited applicability due to language barriers -- the lack of English speakers in local PVOs with whom many of the field testing organizations work in SMED programming.

Turning to the third section on future features for *AskARIES*, Table A13 presents a clear consensus that updates are considered virtually essential for *AskARIES* to be useful now and in the future. Table A14 reveals substantial interest in Help Aids, while Table A15.2 indicates an even split between those interested in full document retrieval and those

not interested. Finally, we see in Table 15.3 a lack of interest in (or suggestions for) other software to run *AskARIES*.

Part B Questionnaire

As noted above, Part A of the survey instrument addresses the logistics of installing and using *AskARIES*, the substance of the annotations, the applicability of the *Knowledgebase*, and future features. Since this part was completed during the HIID visit, it captures testers' initial impressions. Part B of the survey instrument seeks tester feedback based upon more substantial use of *AskARIES* following the site visit. Accordingly, Part B seeks a more in-depth response to the substance of the information contained in *AskARIES* and its use/applicability to the field test institutions and local institutions. As of May 17, 1990, there are a total of 14 Part B evaluations. Below is an overview of the results of the opinion scales.

Table B1-3 indicates that half of the people rated highly the quality of the problem discussions, while the other half were neutral or felt they were not useful. Users generally rated analyst comments about the same as problem discussions (average of both 3.5). As to the document summaries, Table B2-4 reveals that a majority of people considered them to be excellent (average 3.9). While there was some difference of opinion about the usefulness of *AskARIES* for general research (with responses spread across the scale), most users rated favorably the usefulness for research (average 3.8).

Table B5-6, shows that field testers gave an average rating of 3.6 for usefulness and applicability to their own institution. The assessment of the usefulness/applicability for local institutions is seen to be somewhat less than for own institutions. To some extent, this seems to reflect the fact that few potential users in the local institutions can read English. Finally, in Table B8 we see that testers seemed to think that \$389 was a reasonable price for the product. However, as they obtained it "free" from AID, it is not clear from their answer how much, if any, they would have spent from their own budgets to acquire *AskARIES*.

Part 2: Responses by Institutions and Changes in Opinions

Part 1 above presented the aggregated responses to the Part A and Part B survey questions. (As noted, in order to capture testers' views after more extensive use of *AskARIES*, Part B asks six of the same questions as Part A, to be answered when the tester has more experience with *AskARIES*.) This section disaggregates the responses by tester

and looks for changes in a given respondent's answer to the same question asked at the initial session and subsequently.

Not all institutions that participated in the field test appear in Tables 1 through 6. Agencies that did not complete Part B are naturally excluded. Further, there was one instance where Part A and Part B of the questionnaire were completed by different persons, leaving a total of 13 paired responses to Parts A and B.

Among the institutions that appear in the following graphs, three were contacted and assisted over the telephone by an HIID-staff member in Cambridge. This manner of testing was adopted mainly because of certain complexities that arose in connection with international travel. However, once the decision had been made to include these sites in the field test, we thought that the test results could serve to indicate differences in opinions, if any, between the group visited by HIID staff and the group that was contacted via telephone. Therefore, the telephone supported institutions are identified by the letter "T".

As shown graphically in Table 1, experience with *AskARIES* tended to produce a somewhat higher rating of usefulness for the problem discussions; (up=4, no change=5, down=2). Results were more mixed for the usefulness of document summaries (Table 2). With experience, only 2 testers revised their scores upward, 5 left them the same, and 5 revised them downward. The relative improvement in the rating of the problem discussion is particularly interesting in that the problem discussions initially were rated below the document summaries. There seems to be some tendency for this gap to close with experience in using *AskARIES*. For averages for the paired responses, see Table 8.

Usefulness of analyst's comments (Table 3) shows a tendency to fall with experience of the user, although 3 of the 5 that fell dropped only from the highest rating to the next highest. Two remained the same, 1 went up. The rating for usefulness to researchers seemed to fall somewhat as the user gained experience, but the operational orientation of the respondents suggest treating this finding with caution.

Usefulness to the institution being tested stayed the same in 7 cases, went up in 3 and down in 3. There is a similar lack of change in rating of usefulness to local institutions, although the ratings on this category are substantially below the usefulness to own institution. (As noted earlier, this appears to be largely a language issue.)

Ratings given by those respondents supported and surveyed by telephone were generally lower than those from officers visited by HIID staff. This suggests that person-to-person training is likely to improve the usefulness of *AskARIES*, at least in the initial phases of use.

To explore possible differences between AID and Peace Corps as to usefulness/applicability, we compared average scores by agency for those questions. Partitioning the 21 responses to Part A between AID and Peace Corps, we find the following results in average scores.

Table 9
AID compared to Peace Corps
Average Scores Part A³

<u>Subject of Question</u>	<u>AID</u>	<u>Peace Corps</u>
Usefulness of problem discussions	3.3	3.3
Usefulness of document summaries	3.7	4.0
Usefulness of analyst comments	3.9	4.4
Usefulness for research	4.2	3.6
Use/Applicability to own institution	3.3	4.1
Use/Applicability to local institutions	3.2	2.7

When the responses are viewed by institution, the greatest difference is the substantially higher score given by Peace Corps for use/applicability to own institution. Judging by qualitative responses, this probably reflects the major program emphasis in these Peace Corps offices on SMED programs and the perceived usefulness of *AskARIES* in training volunteers as well as serving as a staff resource. This finding is interesting also because Peace Corps was not an important part of the original "resource institution" target audience. Analyst comments also are rated more highly by Peace Corps, as are document summaries. On the other hand, AID gives a substantially higher score than Peace Corps for usefulness in research.

Some Views from Nonparticipating Institutions

In order to broaden the range of perspectives on the usefulness of *AskARIES*, HIID-ARIES staff decided to seek opinions from people who were not part of the field test but who had purchased *AskARIES* directly from the publishers. This decision was further reinforced by the fact that the nonparticipating organizations that had bought *AskARIES* had contributed in important ways in the ARIES project at HIID.

From an *AskARIES* sales list provided by Kumarian Press, most buyers with offices in the U.S. were contacted over phone. These included institutions such as: The World Bank, Foster Parents Plan, Accion International, Arr Associates, Austin Associates, Catholic Relief Services, National Cooperative Business Association, Save the Children, Sinte Gleska College, Transformation International, Trickle Up, and World Vision International. On several issues, there was a similarity in views among the people contacted during this process and those that were interviewed earlier as part of *AskARIES* field test. Some of the main points that emerged during these phone conversations follow.

AskARIES has a variety of uses: some used it for anticipated purposes such as managing an institution's own document collection, program design and research, and project-level advice; others used *AskARIES* for less expected purposes such as writing research proposals, strengthening and promoting their own consulting services, and for enhancing the existing databases of trade associations. According to almost all interviewed, the usefulness of *AskARIES* in these applications was contingent on the database being periodically updated. Furthermore, while all recognized that there were several ways to develop *AskARIES* (such as enhanced features, more powerful software, a broader and deeper coverage of the literature (including video clips), more problem solving orientation, more amenable to statistical manipulation, synthesis of successful and unsuccessful SMED programs), almost everyone voiced the need to have "more entries", that is, to keep expanding the current database. It was believed unanimously that even one update per year not only would keep *AskARIES* "current" but also expand significantly its market. Updating would allay the concerns of those who perceive *AskARIES* to be a one-time project. It would make *AskARIES* attractive as a building block of a serious on-going enterprise in strengthening information capacity in development projects.

A particular model for developing/updating *AskARIES* -- combining the strengths of centralized and decentralized methods of service delivery -- was suggested. Participants with an interest in informal sector/small and micro-enterprise development programs would become paying members of a service that required each member institution to send periodically (new) entries in *AskARIES* to a central agency. Responsible for managing the overall updating and distribution system, the central agency's functions would include, at a minimum, the following tasks: removing duplicate entries; updating project-level data; checking entries for completeness; reorganizing database; marketing; informing participating institutions of the new entries generated; soliciting orders for all or subset of entries; labeling, packaging, and shipping new data diskettes, etc. In addition, the central agency could assume a greater strategic role by indicating to the participating institutions issues and research questions for special focus.

CHAPTER 3 QUALITATIVE RESPONSES⁴

Summary of Key Positive Responses

Project Development

In Jamaica, Gary Vanderhoof sees *AskARIES* as a central information tool in his job as Private Sector Officer. He believes *AskARIES* serves only a limited role in daily project management, that is, for issues that arise and have to be dealt with immediately. However, to the extent that operational problems manifest themselves to be bigger than day to day problems, he might turn to *AskARIES* to "seek solutions" to what other project managers and administrators have done to resolve similar problems.

He envisions using *AskARIES* primarily during the "signposts" in a project's life -- in the project design phase, during mid-term and final project evaluations, and in cases of a modification of funding source. We focussed primarily on the role of *AskARIES* in the project design phase. In making strategic choices about project design, he sees *AskARIES* first as a valuable tool for "brainstorming." It also will help him to learn in advance the lessons of other projects. "But how much time can I take to read and become informed before starting to write the strategy document? It would be useful to have at my fingertips a source of numerous summaries/problem discussions related to the issues I'm considering. In that way, I could have access to ideas I never would have considered. Thinking through other issues will help to sharpen my focus in my strategy document." When decisions about how the strategy document will be implemented are made, it benefits everyone if the strategy document is written clearly and concisely.

In the Dominican Republic, Anne Beasley also believes that *AskARIES* will be useful in the project development phase. Although Anne finds much of the information contained in *AskARIES* to be outdated already, she found some of the analyst comments to be particularly helpful. She envisions using *AskARIES* as an analytical tool to extract information on particular subjects in which she is interested. She also could draw from the lessons learned from other experiences in SMED.

Several users also commented on the usefulness of *AskARIES* as an information resource for proposal writing. Gary Vanderhoof commented that he could use *AskARIES* to provide the documentation necessary to support his proposals to other audiences. It might be particularly important to share information from *AskARIES* with other members of the Project Committee to help make more informed decisions. Likewise, Anne Beasley said she could use *AskARIES* as "ammunition" to reinforce her viewpoints.

Training

Field testers responded with remarkable consistency that *AskARIES* is an important information tool for people new to the field of micro-enterprise. As Anne Beasley said, "[*AskARIES*] is an excellent way to obtain a great deal of knowledge quickly." This was especially true for the Peace Corps program staff, who saw *AskARIES* as an important learning tool for the relatively less trained Peace Corps volunteers. For them, *AskARIES* is a way to gain a relatively rapid overview of the key issues in the literature of SMED. Volunteers have the interest, the time, and in many cases, the academic inclination to really exploit the information in *AskARIES*.

In their assignments, Peace Corps volunteers work directly with individual entrepreneurs, cooperatives, and first level resource institutions that have direct client contact. In the Dominican Republic, Barbara Stahler estimates that of the two hundred Peace Corps volunteers in the DR, about forty work in the small business development program. Although many of these volunteers have business backgrounds, *AskARIES* could play an integral role in initial training in SMED issues and as an information resource as they begin their project work.

The usefulness of *AskARIES* for local resource institutions varied widely. For many users, language is a significant barrier. However, we received numerous suggestions for its use by local institutions, especially in English-speaking countries. In Jamaica, for example, Gary Vanderhoof listed several local research institutions which would benefit from the knowledge in *AskARIES*. For example, Gary said that *AskARIES* could be an important resource for the 200 students at the Institute of Social and Economic Research at the University of the West Indies. He noted that it would be helpful not only for students researching issues related to informal sector activities, but also would be useful for students who eventually will own their own businesses. He said, "Even if only ten of these students end up owning their own businesses, these studies would give them a much stronger basis for understanding problems related to this field."

Charles Mann received similar feedback from Ralf Hertwig in Botswana, who said that *AskARIES* could help establish a relationship with the local academic community, especially local universities. He also thought that this would help to legitimate interest there in small-scale enterprise issues.

A third suggested training use is by local resource institutions themselves. In the Dominican Republic, USAID is working with other donors to establish FONDOMICRO, a proposed new "second level" institution serving as the umbrella organization to a number of local resource institutions and the bridge between resource institutions and commercial banks. After becoming established, one of FONDOMICRO's first tasks will be to give technical assistance and training to "first level" resource institutions (such as ADEMI). Anne thought it would be extremely useful for FONDOMICRO to use *AskARIES* when implementing this aspect of its project work, in order to be aware of problems that other resource institutions and implementing agencies have faced. What lessons have been learned? How can FONDOMICRO use this information to help avert problem areas in their work? Anne noted that "to have all of this information at their fingertips would be invaluable."

To combat the problem of limited use/applicability to local resource institutions with non-English speaking staff, Barbara Stahler suggested that Peace Corps volunteers could play an important role in translating the information in *AskARIES* for use by local institutions.

Using AskARIES as a Framework to Document Projects

Barbara Stahler thought *AskARIES* would be a useful way for volunteers working in SMED to document their experiences in SMED and with local resource institutions (this could be built into their assignments). To create program continuity across volunteers within the Peace Corps, volunteers could document their project experiences using *AskARIES* so that succeeding volunteers would have the benefit of their knowledge. Another direction this might go is the "community notebook" concept within the Peace Corps, whereby volunteers in Mali could share the experiences of a volunteer in the Dominican Republic. This might be an important avenue for training volunteers in SMED and would provide comparisons across countries. Using *AskARIES* to document project experiences also may stimulate volunteers to think analytically about their experiences.

Several users noted that they also are interested in documenting their project activities using the case method. In the Dominican Republic, Peace Corps Deputy Director Jim Schenk said that he may use *AskARIES* and *Seeking Solutions* to train volunteers in case writing. In the Peace Corps in Honduras, both Alex Corpeno and Naomi Till expressed a great deal of interest in using *Seeking Solutions* as a model for developing their own case studies of their projects.

Summary of Key Negative Responses

Use by Experienced Professional Staff

By far the most resounding message we heard from experienced planners was that *AskARIES* already is somewhat outdated. As professionals with a great deal of accumulated knowledge, they were looking for information in *AskARIES* to help them stay "on the cutting edge." They said that updates were essential if the information contained in *AskARIES* is to be kept useful to practitioners. New findings are constantly emerging with the huge amounts of new programming and projects in SMED. Not to have these reflected in *AskARIES* would rapidly diminish its usefulness.

Lee White at USAID says that he sees no problem in *AskARIES* becoming a standard resource that his staff will use, together with other resources, to do their work. Lee was concerned, however, with the issue of "updates." "Old knowledge is not bad, but it needs to be updated with new experiences." As Lee put it, "One time databases have a low shelf life. How do you accommodate that in *AskARIES*?"

Mari Clark, Urban/Labor Development Officer at AID/WID, had the perspective of a researcher. She had used *AskARIES* some months ago while trying to find articles on women in small and micro-enterprise development. *AskARIES*, she explained, was a useful resource for her because her job entailed conducting research and developing research agendas on the gender aspects of unemployment and small and micro-enterprise development issues. She explained that a lot of her time is spent on "tracking down the latest reports and findings" on these subjects. "New things are happening all the time." Therefore, Mari expressed a real need for updates. "Generally, if a resource is not too up-to-date, I tend to not use it. I also like to have the original [underlying] articles for my own reference and notes. However, there is a lot of merit to a good old book, and *AskARIES*, in some sense, is like that."

We also found that new programming efforts in SMED have led to changes in the field. The international network has grown denser with the emergence of new "second level" institutions such as FONDOMICRO in the Dominican Republic, and donor institutions such as AID have become one more step removed from direct contact with local resource institutions. Given this relatively recent phenomenon, the literature documenting these changes has not been captured in *AskARIES*.

A problem common to project staff is the severe limits to their time. Although users did not find *AskARIES* (Notebook) hard to use, the selecting and reading many entries on a given topic or problem is time consuming, especially for users whose native language is not English. Although one can make views and scroll through the records fairly quickly to obtain an initial reaction as to whether or not a record is relevant, the user is still left with the task of reading records on the screen. As Gary Vanderhoof explained, "although *AskARIES* is a timesaver, it still is quite time consuming."

Dan Seyler, a research analyst in Lee's Division, felt that the kinds of requests for information he had to respond to in his work do not lend themselves to a quick search. The extent to which *AskARIES* may get used becomes a function of how much time a person has to search and how familiar the person is with the contents of *AskARIES* records.

Users Must Realize the Importance of the AskARIES Framework

Understanding the framework on which *AskARIES* is based is critical to effective use of the Knowledgebase. The importance of asking the right "question" is important to obtain the desired information -- otherwise the user ends up with information not germane to the topic being researched. The resulting problem is that *AskARIES* could contain the information requested but not be retrieved because the users do not realize how to get it. There is somewhat of a contradiction, then, in training support staff to use *AskARIES*. While managers may want secretaries and computer staff to manage and use *AskARIES*, this requires staff to have a good knowledge of the problem framework.

Lee White at AID responded somewhat differently. For him, *AskARIES* was a kind of database whose framework needed to be understood by any user who wanted to benefit from it. This poses a problem, according to Lee, for a person (particularly in the field) who either has his or her own distinct way of organizing information, or who has little time to understand the nature of, and the rationale for, the *AskARIES* framework. *AskARIES* users, according to Lee, may not realize how important it is to understand the *AskARIES*' recurrent problem framework. "They could be trained, of course, in these matters. And I think that training and support are essential in the case of *AskARIES*."

Content of AskARIES Misses Some Targets

Numerous practitioners commented that they would like for there to have been more "project based" (vs. "document based") records in *AskARIES*. Projects are covered only to the extent that they have been written about in the included literature. While there are

about 150 project evaluations included, the database did not intend to be a project based collection of data, but a literature based information resource. This is the motivation for calling it a Knowledgebase, rather than a Database.

Except for the current Peace Corps' moves to recruit subject matter specialists for SMED, most professional Peace Corps staff are oriented towards developing and administering programs for the volunteers, with relatively few trained in development economics or related subjects. Therefore, there is limited interest in "the literature" of SMED, as encapsulated in *AskARIES*. Indeed, if a Peace Corps staffer spent too much time with it, this might be seen as detracting from the main business of administering the Peace Corps' programs. Again, this reinforces the need to continue development of *AskARIES* into a sort of consultancy tool to provide a "menu of what goes in the soup" of successful SMED program.

Several field testers, particularly staff members who are active in SMED project design and implementation, commented that *AskARIES* lacked information with step-by-step detail of SMED programming. In Bolivia, Bill Tucker wanted concrete details on different ways to train micro-entrepreneurs. Are courses useful, and if so, what should the course content be? What training materials should be used? How many days are optimal? Which courses work best?

Users noted that there are several different levels of planners and practitioners in SMED, namely planners away from field offices [in Washington], planners in field locations, practitioners, and scholars/researchers. While *AskARIES* is not designed and partitioned according to these different "users," future updates could address the need for different levels of "solutions" for different users.

Use by Local Resource Institutions

Recurrent in our discussions with AID and Peace Corps staff was the question of usefulness to local resource institutions. In commenting on this, Gary Vanderhoof said that often smaller resource institutions do not spend much time strategizing -- they often have only enough staff and resources to conduct daily operations, and rely heavily on operational experiences rather than on outside assessments. "Realistically, local institutions are even further out on the road [than AID] as implementing agencies, with very little time for planning. They will likely view *AskARIES* as something 'academic' and 'nice,' but of little use to them in daily project activities." As mentioned above, non-English speakers will find *AskARIES* extremely difficult to use.

CHAPTER 4 RECOMMENDATIONS FROM FIELD TESTERS

Updates

To expand the variety of documents covered in *AskARIES*, field testers provided a wealth of ideas for further development of *AskARIES*. In Jamaica, Gary Vanderhoof would like to extract entries relating to donor-funded projects. In this way, he would be able to learn from other USAID projects in SMED, which would be helpful to him in project design and evaluation stages. Currently, *AskARIES* has two ways to access the information. However, these searches often yield hundreds of records which may or may not be relevant. Gary Vanderhoof suggests making a heading specifically listing donor affiliation (if relevant) so that users might search specifically on that field (in conjunction with others).

He also would like to expand the variety of documents in future updates. Specifically, he would like to have access to project evaluations and other documents from various donors to learn of different approaches to SMED other than USAID. He would like to see project evaluations from World Bank and IDB projects, as well as from Dutch, German, French and other donor-funded institution results. Just as GTZ was interested in obtaining *AskARIES* because of their difficulty in obtaining US documents, so too would Gary like to have access to what the Europeans, Canadians, and others are doing.

In the Dominican Republic, Anne Beasley suggested that more documents be included with data about the financial viability of resource institutions. She notes that these source documents might be difficult to obtain (there is not much of this kind of work being supported currently). She also would like to obtain more information on running SMED projects in highly inflationary environments. Also in the Dominican Republic, Barbara Stahler would like more information on generating and/or financing pension plans for SMED institutions.

At AID/Washington, researchers like Mari Clark, Urban/Labor Development Officer at AID/WID, also expressed interest in particular kinds of documents. For instance, Mari suggested strongly the need to expand *AskARIES* to capture current issues related to women in development. In Latin America, Anne Hornsby received frequent requests for more information on training methodologies, new credit methodologies, and information on working with trade associations.

Users also provided rich feedback with suggestions as to the mechanism for providing updates. Gary Vanderhoof thought updates should be handled by a central

institution but saw users playing an integral role in this process. He suggested that field offices receive a cable once a year requesting new documents relevant and compatible to the *AskARIES* framework, such as PIDs and PPs. In this way, *AskARIES* would be updated with current documents generated in the field. This also may be a way to provide more project-based documents. Anne Beasley agreed that there needs to be more project-based documentation and case studies of particular projects. She suggested this be done on a buy-in basis or perhaps included with some other project activity (for example, a training workshop). Users should receive updates not only on new project activities, but also follow-up information to earlier projects.

Lee White at AID/Washington also was concerned with the relevance of the information in *AskARIES* after a few years, but was quick to point out that did not mean a central agency ought to be responsible for managing an updating system and entering new information. He emphasized the idea of a decentralized operation where, given a common framework/field structure/keyword system, agencies and field offices could enter their own information, exchange amongst themselves, and contribute to *AskARIES* that kept growing as a result. Discussion along these lines suggested the need to study in detail the technological alternatives and administrative implications of such an operation. Furthermore, given that AID staff routinely use commercial databases, it was felt that the study ought to look at how such private sector firms deal with updates and exchange of information.

Developing AskARIES as a Consultancy Tool

Charles Mann found a consistency in discussions that *AskARIES* would be more useful to the experienced SMED manager or planner if there was more synthesis of the information from various documents. As Ralf Hertwig of Peace Corps in Botswana explained, for the experienced planner, the real potential of *AskARIES* is in providing the sort of guidance you would expect from a senior professor in a subject. "If you went to Milton Friedman to get some advice on starting up a small enterprise program, you would expect from him a distillation of his knowledge and experience of the subject. If he handed you a pile of books and said, "Read these, the answer is in there, you would not consult him again. In effect, that is what you are doing with *AskARIES*." For planners, the information in *AskARIES* needs to be far more synthesized. It would take a very long time to do this synthesis for oneself, and that is what would be needed. The planner's world is one in which the boss comes in at 8 AM and says: Let's start an enterprise development program. By 1PM I'd like ideas on the main elements we should have in such a program."

For the planner, then, *AskARIES* still is unfinished. The essential first step has been taken of accumulating and ordering a vast amount of information. Now a more analytical process must start. A model or theory must be used or developed to allow a greater ordering and synthesizing of the data.⁵ "You must have some ideas of how the various variables are related to one another; some hypotheses to test. The objective would be to define the operational ingredients necessary for a successful enterprise development program. What are the common denominators of successful programs? Very likely, these will have to be presented in terms of probability statements, rather than flat statements."

With his quantitative analytical background, Ralf would like to see if some or all of the following techniques might be relevant in trying to synthesize the data: regression analysis (especially with dummy variables), analysis of variance, weighting and summing weights, contingency tables leading to frequency distributions from which probability statements could be made. Since *AskARIES* contains substantial information on client characteristics, numerous cross tabulations are possible. In terms of program improvements, Ralf suggests that if we have any success with synthesis, we should think about more use of graphics, matrices and summary tables, and innovative ways of presenting trends and tendencies.

Charles Mann noted that the vehicle now used to develop such consultancy tools is the expert system shell; a class of computer programs designed to apply the "rules of thumb" of experts to a knowledgebase via an inference engine. It may be possible to develop such rules of thumb from some combination of the literature results in *AskARIES* and interviews with practitioners in successful programs. The Expert System format seems the most promising one within which to pursue the sorts of objectives that Peace Corps staff see for *AskARIES* to make it more useful to them.

In sum, for Peace Corps, *AskARIES* seems an excellent resource for volunteers new to SMED and a useful, but unfinished resource for professional staff. As Ralf Hertwig put it, "As planners, we cannot spend time reading the story. We need quick, fast guidance. As it stands now, the planner still needs to synthesize what you already have synthesized from the literature. You need an analytical way to deal with the enormous amount of information contained in *AskARIES*...We have got all this, now, so what?" To develop the full potential of *AskARIES*, further analysis must be done, guided by some theory of how to develop successful small enterprises from which hypotheses can be drawn and tested. While much information for such testing can come from *AskARIES*, more project based (as distinct from literature based) information will be needed. Once some general statements can be made (perhaps with probabilities attached), then an expert system shell may be the

most useful way to present information to planners. This would facilitate the sort of interactive "consultancy tool" project planners really want of their SMED information resource. While a useful product as is, *AskARIES* clearly is most interesting if viewed as a starting point for a far more ambitious knowledge generating process than as an end point in the publication of a literature summarizing "super-document."

Software Related Suggestions

At AID/Washington, Lee White commented on a recurrent problem with Notebook II -- the lack of on-line help screens and menu driven features. "Ideally, a person using *AskARIES* should not have to refer to the *User's Guide* or the software manual in order to know what keys to press at any stage during an *AskARIES* session." According to Lee, every level within *AskARIES* should have such explicit help features.

There were similar comments from other skilled computer users, for example, Jeanne Tifft, Director of the AID Documentation Information Center, and Dan Seyler, a research analyst with the Division. Given their proficiency with computers, Jeanne and Dan tried to use *AskARIES* without looking at the *User's Guide*. They felt impatient at the lack of help-screens. The current lack of *AskARIES* help screens makes it important to read the *User's Guide*. This tendency to not consult the *User's Guide*/Notebook II manual is understandable and is thus an issue that cannot be ignored. Discussions suggested that this factor may tend to overshadow some people's assessment of the content of *AskARIES*. (Note, however, that Notebook II does contain an on-line help feature for the database itself, even though none are specific to *AskARIES*.)

Feedback on AskARIES at the ARIES Workshop

Part of the field test was to provide feedback on *AskARIES* as obtained from participants at the Washington Workshop. As a means of catalyzing a more vigorous exchange of views in the limited time allotted for presentation of the results of the field test, the HIID team developed an "*AskARIES* case." The decision in the case was the one set out in Andrea Baumann's letter to the field testers, stating what sorts of information AID needed and why. Midway in the case discussion (which was led by Charles Mann), Amy Sanders presented the field test results via overhead projections of some of the graphs used in this report.

The main benefit of the session was familiarizing participants with *AskARIES*, the field test and its results. It was particularly useful to have some of the field testers in the

group to elaborate on some of their comments. At the end of the session, at Charles Mann's request, Larry Reed of Opportunities International (subcontractor under GEMINI for the *AskARIES* updates) commented briefly on his hopes for an effective updating process. Andrea Baumann closed the session with further observations on the objectives of the field test and on the usefulness to AID of the information collected.

A side benefit of the case presentation is that it generated some lessons on the case design and discussion leadership that could be incorporated in subsequent teaching of "the *AskARIES* case." Only several weeks later, Charles Mann was asked to present *AskARIES* to a class of international Public Health graduate students at Harvard, as an example of one use of information technology in a developing country context. Using lessons learned from the workshop session, he was able to expand the case itself and alter the teaching plan to bring about substantially more active and productive discussion.

While not formally part of the Washington workshop, the ARIES project's Technical Review Board met to review the workshop results and the products presented there, including *AskARIES*. This provided an opportunity to call to the attention of these key individuals not only the favorable reactions generally accorded *AskARIES*, but the serious threat to its future posed by the lack of funds for meaningful updates.

CHAPTER 5 CONCLUSIONS

Getting AskARIES into the Field

One fundamental purpose served by this field test was getting the 21 copies of *AskARIES* purchased by AID out of Washington and onto the computers of AID and Peace Corps field missions. While all of the field missions in the test were "volunteers," having an ARIES team member arrive for system start-up clearly catalyzed activity. How much *AskARIES* will be used remains to be seen, but at least there are seventeen locations where it is loaded and staff know how to use it. Being able to sit with a visiting "expert" to install and evaluate *AskARIES* clearly was regarded as a plus by recipients. Moreover, the opportunity to participate shortly thereafter in the ARIES Workshop including discussions of *AskARIES* further enhanced interest.

Some Caveats about the Field Test

While this field test does give a preliminary indication of how useful people think *AskARIES* will be, it is far from a complete or satisfactory evaluation. First, with most computer software embodying unfamiliar concepts and/or content, the new user does not immediately grasp the full potential or power of the newly introduced system. Even in the two day visits, given the competing demands on field testers' time, only the most rudimentary introduction to *AskARIES* could be accomplished. Much of its potential strength (and weakness) remain to be discovered with more extensive use. Second, partly because of the "introductory" motivation of the visits, members of the original *AskARIES* team were specified by AID to carry out the field test so that they could serve as resource persons as well as "evaluators." While team members did their best to be objective, they had been involved in creating the product being tested.

Third, the number of records sampled out of the 961 is unknown and in any event probably small. Despite a multi-faceted program to assure quality control, the quality of analysis in *AskARIES* varies. If a tester happened to hit some unusually well done records, the ratings would err on the high side; some unusually poor ones, on the low side. The sample sizes for the Part A evaluations were small and for the Part B evaluations are unknown. Also, recall that all testers were seeking information useful to the decision-maker in the Senegal (A) case in *Seeking Solutions*. A different exercise might have elicited different quality judgments. (For example, one tester chose to search on women's issues in SMED and was enthusiastic about the resulting information.)

As Things Now Stand

In terms of further investments in *AskARIES*, the overwhelming "need" expressed by the field testers was for periodic updates. (As noted above, the same message came from the other purchasers who were contacted by telephone over this test period.) Most saw this as an annual updating diskette(s) from which new information would be merged into their existing *AskARIES* files. Some suggested making interim updates available online from some central place via modem, so that information could be updated continuously.

The five year GEMINI project RFP provided for five person months for updating *AskARIES*. GEMINI prime contractor DAI has let a subcontract to Opportunity International to provide updates of *AskARIES*. At the time of the ARIES Workshop, plans still were being formulated for the updates (including use of volunteers), but nothing firm had been decided. It was clear to all concerned that the shortage of funds would limit severely the scope of any updates.

Updates are Fundamental to Continued Usefulness and Commercial Viability

As the publisher of *AskARIES*, Kumarian Press has expressed deep distress over the uncertainty about updates. The following is taken from a letter from publisher Krishna Sondhi to Charles Mann, dated April 4, 1990. "We are, in fact, continually being asked about updates by our customers. The ambiguity with which we necessarily answer is a factor that has prevented sales from reaching expected levels. I am aware that some provision for maintaining *AskARIES* has been made under GEMINI. Updating should be happening now. We have invested quite considerably in *AskARIES*. We did it on good faith. A firm commitment to an update plan would allow us to announce them as forthcoming in our August catalog. Frankly, if provision for updating is not made, the software will soon be perceived as too dated to be of value."

It seems clear that unless the updating issue can be resolved successfully, *AskARIES* will become similar to a large book, for which no new editions are expected. It remains useful, but to an increasingly narrow audience. With entries in *AskARIES* extending only through HIID's original subcontract date of September, 1988, the update issue is the central issue for *AskARIES*.

Beyond Updates

Were there resources to go beyond updates to further improvements and extensions of *AskARIES*, one direction clearly indicated is to move toward more synthesis of the information already present in *AskARIES* (and in subsequent updates). Since *AskARIES* is a document based system, each record draws almost entirely upon individual authors (except for the analysts' comment field). No synthesis of thinking about a given problem is presented in *AskARIES* (although some is presented in Part I of *Seeking Solutions*). Combining such specially written syntheses with an interactive user interface to lead users to appropriate information would produce the "consultancy tool" described most eloquently by Ralf Hertwig. As he observed, "this pulling together of information in *AskARIES* is a wonderful beginning, but its real promise can only be realized by synthesizing it still further."

Current Outlook Clouded by Inadequate Provision for Updates

Judging solely by the information of the field test and the fact that there is a line item "*AskARIES* updates" in the follow-on GEMINI project, the future for *AskARIES* should be bright. The reality, however, is that in contrast to over 100 person months to create *AskARIES*, only 5 months over five years is budgeted to provide a flow of updates. Unless supplemented by funds from some other source, even with the best intentions and committed management, it seems a nearly impossible task to keep *AskARIES* updated with the funds currently available. Yet an effective update program clearly is the prime requisite for viability. In the midst of so much investment in small and micro-enterprise development, it is ironic that so few resources are available to provide updates to this fundamental SMED information resource, not to mention any funding to improve and extend it.

ENDNOTES

1. Subsequently, the case has been revised in light of feedback at the workshop and has been used to introduce *AskARIES* to Harvard University graduate students interested in uses of information technology in development applications.
2. In the Survey Instrument Part A, Questions 1-8 were scaled with 1 highest and 5 lowest, while questions 9-15 were scaled with 1 lowest and 5 highest. While this presented no problems in filling out the questionnaire, to facilitate both graphic presentation and averaging scores all scales have been converted to 1 lowest and 5 highest.
3. Because Tables 1-6 include only the testers who returned both Part A and Part B, the sample size of Part A alone (21-28) is larger than the sample of part A's paired with B's (13). This makes the averages for Part A in Table 7 different from those for Part A, Table 8.
4. Detailed qualitative statements from all questionnaires are contained in Appendix A and trip reports by the HIID team members in Appendices B-E. These Appendices were submitted to AID with the Preliminary Report of March 6, 1990. As the key points from these Appendices have been included in this report, these Appendices themselves are not included in this final report.
5. To be sure, there are some benefits to opening up, rather than synthesizing or modeling SMED problems at this stage of our collective understanding about the subject. From discussions among HIID-ARIES staff emerged the idea of recategorizing, as needed, existing (and future) data in AskARIES as a step towards generating insights for a richer theory about informal sector processes. An example may help to visualize the process: as experience with small enterprise/informal sector programs increase, we have begun to appreciate the way in which structural constraints (historically undeveloped capital and insurance markets) and possibilities (politically mobilized informal sector groups) alter project outcomes significantly. This appreciation implies, for instance, that one could use the USER DEFINED FIELDS in AskARIES to enter information relevant to the "newly discovered" variables, turning to either existing summaries and problem discussions in AskARIES or to external sources for that purpose. Given the attention to new factors thus created, it is not difficult to imagine a growth over time in the volume and content of the information contained in these new fields. It is quite likely that over time many current fields in AskARIES may be dropped/collapsed into one as a result of the growing significance of the newer information. Although it is difficult to imagine the structure of the database that may emerge in this process, it is easy to appreciate the fact that existing data, bound, as it were, in categories will lend themselves more to conceptual as well as technical manipulation (understanding complex relationships, for instance) with developments in computer and software technology relevant to predominantly text-based databases.

APPENDIX 1
AskARIES Beta Testers

<u>Beta Tester</u>	<u>Site</u>
Raul Barragan	INCAE/Costa Rica
Ross Bigelow	USAID/Washington
Marvin Bowers	ILS International
Betsy Campbell/ Peggy Clark	Save the Children
Ross Croulet	Foster Parents Plan
Tom Dichter	Technoserve
Larry Frankel	CARE
Robert Hancock	Transformation International Enterprises
Carl Leidholm	Michigan State University
Leslie Moore	Peace Corps/Washington
Steve Ruth	George Mason University
Lawrence Yankovitz	Catholic Relief Services

TO: Charles K. Mann, Amy Sanders, HIID
FROM: Jenna Dixon, Kumarian Press 
DATE: 3/90

RE: AskARIES installed base

I am pleased to send you this update on AskARIES users. Organizations currently using AskARIES in their small enterprise programs include:

Academy for Educational Development, Washington DC and Peru
ACCION International, Cambridge MA
Agency for International Development, Washington DC and field offices
American University, Washington DC
Arab Planning Institute, Safat, Kuwait
Arr Associates, New Paltz NY
Asian Development Bank, Training and Development Section, Manila, Philippines
Austin Associates, Cambridge MA
Bloom, Evan (personal), Newton MA
Canadian International Development Agency (CIDA), Hull PQ
Community Economic Corporation, Washington DC
Catholic Relief Services (CRS), New York NY
Deakin University, Victoria, Australia
European Centre for Development Policy and Management (ECDPM), Netherlands
Foster Parents Plan International, East Greenwich RI
Harvard Institute for International Development, Cambridge MA
Illinois State University, Normal IL
International Labor Organization (ILO), Dakar, Senegal
Mennonite Economic Development Associates (MEDA), Winnipeg MC, Canada
Nathan Associates, Washington DC
National Cooperative Business Association, Washington DC
Near East Foundation, New York NY
Peace Corps, Washington DC and field offices
Save the Children, Wilton CT
Small Business Promotion Project, a joint project of the Nepal Ministry of Industry and GTZ
Sinte Gleska College, Institute for Economic Development, Rosebud SD
Transformation International, Washington DC
Trickle Up Program, New York NY

UNIDO, Bhutan

World Bank, Africa Ind/Energy Tech Division, Washington DC

World Vision, Monrovia CA

Funding is currently being sought for purchases by:

Preferential Trade Area of Eastern and Southern African States (PTA; 16 member states, supported by UNDP and Austrian and Netherlands governments; considering licensing AA for TINET, trade information network)

Kenya Rural Enterprise Programme, supporting seven NGOs in Kenya:

National Council of Churches (NCCK)

Tototo Home Industries

Kenya Women Finance Trust Company Limited (KWFT)

PCEA Chogoria Hospital

Daraja Trust Company Ltd. (DTC)

Council for International Development, Kenya (CID/K)

Kenya Rural Enterprise Programme (REP)

Kenya Ministry of Planning, Small-scale Enterprise Development Policy Project (SSE/DPP; jointly sponsored by UNDP, ILO, and UNIDO; have identified at least nine project beneficiaries)