

MID-TERM EVALUATION
SYSTEMS APPROACH TO REGIONAL INCOME
AND SUSTAINABLE RESOURCE ASSISTANCE PROJECT
(SARSA II)
(Project Number 963-5452)

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Institute for Development Anthropology
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Prepared for the U.S. Agency for International Development

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NOVEMBER 1, 1993

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I. EXECUTIVE SUMMARY

A. BACKGROUND

The Systems Approach to the Regional Income and Sustainable Resource Assistance (SARSA II, Project Number 963-5452) was initiated in 1989 as a six-year project. It is being implemented through a five-year Cooperative Agreement with an accompanying Basic Ordering Agreement by Clark University, in collaboration with the Institute for Development Anthropology (IDA) and Virginia Polytechnic Institute and State University (VPI). The SARSA II Project has followed two previous projects. The 1978-84 Area Development Project was implemented first by the University of Wisconsin, Madison and then was changed to Clark University with a subcontract to IDA. The 1984-90 SARSA I Project was implemented by Clark University and IDA. Under SARSA II, the project implementers have focused on two interrelated applied research themes: 1) the integration of rural regions, including both rural and urban areas, into more efficient and equitable economic markets, and 2) the role in regional economies of the establishment, management and maintenance, in ecological balance, of sustainable natural resource systems. Through add-ons from the Women in Development (WID) Office, the SARSA II project is also expected to more fully integrate gender and WID considerations into all project activities.

B. THE EVALUATION

This mid-term evaluation is part of the Research and Development (R&D) Bureau's standard review of the performance of grants and contracts, in anticipation of the implementation of the second half of the project. The evaluation is based on three broad sets of issues:

- 1) quality, quantity, relevance and impact of research and technical assistance provided;
- 2) status of syntheses, dissemination and use of the research and its findings;
- 3) institutional and management considerations relevant to the implementation of the Cooperative Agreement; and
- 4) in light of project accomplishments, options for future research and technical assistance activities and supportive institutional arrangements to meet anticipated AID research needs.

The evaluation team consisted of three members: 1) a Team Leader and Anthropologist, 2) a Geography/Geographic Information Systems Specialist, and 3) a Natural Resource Management and Women in Development Specialist. The evaluators collected information by means of personal and telephone interviews, reviewing responses to an electronic mail questionnaire which solicited input from selected AID missions, multiple day

visits to each of the collaborating institutions, and a review of the reports, publications, manuals and proposals generated by the project.

C. RESEARCH AND TECHNICAL ASSISTANCE

The evaluators' assessment of the applied research conducted by Clark University, IDA, and Virginia Polytechnic University is that a large part of the work done as part of SARSA II is of high intellectual quality and is very useful in informing and guiding the efforts of USAID, other donors and of host governments. Much of the SARSA II research has accomplished the intended purpose expressed in the Project Paper of development and application of state-of-the-art social, spatial, environmental and economic analyses to examine and assist regional economic development. Among the highlights accomplished by the project are the following:

- 1) The strengthening of the applied anthropology capacity at IDA has been especially impressive as measured by the quantity and quality of output and the practical relevance of the research and documents produced. IDA has been successful in generating a large number of USAID mission add-ons, especially for SARSA II-related work in Africa. Long-term research in Tunisia on the provisioning of water use and on the social and ecological effects of the Manantali Dam in Senegal are important, well-developed case studies illustrating the possibilities and utility of social science research. Work on household income strategies in Burundi and on the estate sector in Malawi was responsive to the needs of REDSO and the missions and contributed to the formulation and direction of projects and policies.
- 2) Some of the SARSA II research on natural resource management (NRM) has made a significant contribution to our knowledge of this area. In particular, the IDA work in Latin America and Africa has helped to elaborate and refine the political ecology analytical framework. This framework elucidates the way in which political, economic and social factors at both the micro-level and the macro-level affect the utilization and (often) the degradation of natural resources. Their river basin studies represent another unique and holistic contribution to a better understanding of NRM issues within a cultural and social context.
- 3) The Ecology, Community Organization and Gender (ECOGEN) work of Clark and VPI is productively elaborating and refining methods of analysis derived from feminist political ecology. These research advances further our understanding of how the interpretations, conflicts, and interactions between and among both men and women influence both natural resource management and social organizations. The policies that result from these more sophisticated understandings are likely to contribute a great deal to sustainable NRM strategies for natural resource management and development. The cross-disciplinary combination of interests in gender, community and natural resource management found in the ECOGEN work is not common and AID should continue to develop this capacity.

4) Gender considerations have been addressed by the SARSA II cooperators as research questions and methodologies. The gender-focused ECOGEN work represents the only instance of on-going collaboration among the SARSA II institutions (between Clark and VPI). The ECOGEN case studies are being used in training courses worldwide and both the case studies and WID guidelines have been incorporated into university-level courses. Appreciable efforts have been made to both train and collaborate with female researchers. The production of synthesis documents on gender are underway and should make a significant contribution to the relevance and impact of the SARSA II project.

5) SARSA II support at Clark has been used to support the refinement of the Participatory Rural Appraisal (PRA) method, a demand for which exists in USAID missions and by other donors. The ECOGEN group has been supported for a shorter period of time but has already produced a number of case studies and is following a trajectory toward producing synthesis documents. Both of these efforts are centered in Clark's International Development program and are being led by a historian and a political scientist rather than by geographers. A geographer is involved in the ECOGEN research, and graduate students from geography have been used extensively in both ECOGEN and PRA work.

6) The institutional strengthening of geography at Clark University has had a limited degree of success. To some extent, there has been an amplification and refinement of geographic methods, training and research for application to development issues. The small amount of SARSA II support to the Geographic Information Systems (GIS) unit that developed IDRISI, however, was critical. This unit is now self-sustaining and reports that approximately 8000 legally registered copies of IDRISI software are in use around the world. Most of the additions generated by Clark University under SARSA II have been for IDRISI training and application. Clark's greater strength has been in the development of GIS software rather than in the applications of this technology to development problems.

7) Clark has emphasized methodologies and the need to build capacity at the local level with host country researchers and institutions. They have provided a valuable service in producing workbooks and manuals in several languages. Clark's role in helping establish a group at Egerton University that can do PRA training is especially significant. The ECOGEN group has done some training in Nepal. A third semester-long training course at Clark with a group of gender scholars from several countries around the world will take place this year. The research and methodologies developed under SARSA II are also informing a new generation through their incorporation into the graduate teaching programs in International Development (Master's degree) and the Department of Geography (Ph.D.). Both of these programs have foreign scholars from several of the countries in which SARSA II has done research.

8) IDA has not devoted attention to producing handbooks or training manuals on research methods. They have accumulated a substantial amount of experience and sophistication in doing household level research which they are able to link to more macro-level trends within

countries and regions. Other researchers, including host country nationals trained by IDA, would benefit greatly from the codification and dissemination of IDA's expertise.

9) IDA has a good record of collaborating with host country institutions and researchers and assisting in the development of human resources in several of the countries in which it has worked. Graduate students from several countries in which SARSA II projects were carried out have received degrees or are studying for advanced degrees at Binghamton University. Several are being advised by IDA personnel who are formally or informally associated with the anthropology program at Binghamton University. The review team met with several impressive U.S. and foreign students pursuing graduate degrees in development anthropology who work closely with IDA staff. These students are also being awarded prestigious, competitive grants from such sources as the Social Science Research Council, National Science Foundation, and the Fulbright Program to do field research overseas.

10) IDA has followed a clear trajectory of producing case studies that are then assembled, along with similar work by other scholars, into synthesis documents. The synthesis work of SARSA I on resettlement schemes and on lands at risk has been followed in SARSA II by a synthesis volume on contract farming (based on work done in SARSA I) and a volume on the social causes of environmental destruction in Latin America. The comparative and collaborative work on peri-urban areas in Africa is leading in the direction of a synthesis volume.

11) IDA generally does well in responding to USAID and other donor needs, procedures, and arrangements. It has become an institution that is well-known for having the capacity to address sociocultural aspects relating to development. Clark's ability to productively interact with USAID missions and other donors is also well-developed. Through IDRISI, ECOGEN and PRA, it has carved out a useful niche in doing development research. VPI is still struggling to determine how to link SARSA II efforts with donor needs.

12) VPI faculty and graduate students have done several interesting investigations as "special projects" with SARSA II support. This work is academically interesting and potentially of practical utility. Unfortunately, these special projects are on a large variety of topics and several have been done in countries in which USAID has little presence. Only a small project on integrated pest management and some ECOGEN work has been linked with work being done by Clark and IDA.

13) IDA and Clark have established good working relationships at the administrative and management levels. The frictions that were noted during the SARSA I evaluations have evaporated. Clark and IDA jointly develop work plans and engage in budgetary planning. Unfortunately, tensions and difficulties have arisen with VPI. The inability of VPI to establish a coherent research plan and to generate mission buy-ins and complementary sources of support has led to their increasing isolation from the rest of the project.

14) The project has been responsive to the needs of AID and demonstrated that its research methods and analyses are relevant to the goals of the agency. A key indicator of this is that **it has been more effective, relative to other similar Cooperative Agreements (CAs), in generating add-ons and OYB transfers to its core funding.** The institutions have generated the amount of add-ons contemplated in the original Cooperative Agreement, nearly \$4.0 million of add-ons to go with the \$2.6 of AID core funds allocated. The add-on ceiling will be raised approximately \$1 million. In addition, the project has also received \$825,000 in OYB transfers that have been added to the core budget. The project has thus achieved and will soon surpass the original goals established for it.

The overall evaluation of the project and its outputs is on balance positive, however, the team identified a number of areas that require improvement. These are the following:

1) The mid-term evaluation of SARSA I noted that the "... intended integration of geographic and anthropological perspectives has not materialized to the degree anticipated." While IDA and Clark have worked out management problems, there is still little intellectual and substantive interaction between the two institutions although anthropology and geography are occasionally linked by researchers within one of the collaborating institutions. VPI research has not been integrated, with the exception of the ECOGEN work.

2) Too often, SARSA II research appears to be the work of solitary academics who are pursuing their own interests and agendas rather than collaborating to meet the needs of AID or producing integrated research results or methodologies. IDA has been most successful in meeting AID's needs, although its most productive collaborative effort to date has been with the ACCESS and FIRM projects in Mozambique rather than with other SARSA II collaborators and institutions.

3) Although ECOGEN represents excellent collaboration between Clark and VPI researchers, the three cooperators have not developed a joint coherent gender-related research program in any region. Of all the outputs from SARSA II completed to date, about half mention gender issues in some manner (ranging from one or two paragraphs to entire papers); research and/or papers focused on gender account for 20 percent of the total output and most of this work has been done under ECOGEN. This work makes a significant contribution to the field of feminist political ecology but the links to A.I.D. mission and regional bureau activities, policies and program has often been weak. Gender analysis could easily have been incorporated into much of the SARSA II work which was more strongly linked to mission and regional bureau priorities. The inclusion of gender-related issues should not always require the infusion of extra funds from the R&D/WID Office.

4) SARSA II could do a much better job of dissemination of its results. The principal outputs are research reports, methods manuals (in the case of Clark) and publications. To better reach busy readers, a standard format for all SARSA II reports should be established, including an executive summary that recounts the major findings and that includes principal policy and other recommendations arising from the research. The project should consider

disseminating on as wide a scale as possible a short summary of each major research reports that includes a tear-off sheet to order the full report (much like is done with IFPRI's Research Briefs). The byline of all reports should use the current project (Systems Approach to Regional Income and Sustainable Resource Assistance Project II) and office names (R&D/EID).

5) Although fiscal and administrative management of the project appears sound, SARSA II has suffered from a lack of strong intellectual direction. The result is that there is only a minimal level of disciplinary, methodological, or institutional collaboration among researchers despite the fact that individuals at all three institutions seem to uniformly share a commitment to the values of sustainable development.

6) The result is that SARSA II often seems to lack an intellectual or substantive core. The strength of this is that the project often can or will respond to the needs of AID missions or bureaus, even in cases where its expertise is marginal (such as in the work it undertook on Integrated Pest Management). The drawback is that syntheses of the results of SARSA II are difficult to achieve.

7) Apart from the Project Director, and the developer of the IDRISI software, only a limited number of geographers other than graduate students at Clark have been involved in the project. Although the multidisciplinary International Development program has been substantially enhanced, SARSA II has not been completely successful in strengthening the Department of Geography at Clark to contribute to international development issues.

8) VPI was brought into the project in 1989 to provide a) a Washington office and personnel for the project, b) competence in the areas of agricultural economics and urban planning, and c) an electronic means for accessing the services and publications of the project. Its Washington office has closed, the work in economics and urban planning has yet to become tied to the other institutions or to AID missions, and the electronic network has never been established. VPI has not contributed in any of the ways originally envisioned.

Because of these findings, the review team makes the following recommendations for the remaining time under SARSA II:

1) IDA should devote time to codifying and disseminating what it has learned from its political ecology approach, particularly in showing how the data from household surveys can be linked with other levels of analysis. Similarly, the PRA work of Clark should devote more attention to the issue of "scaling-up"; that is, determining how the recommendations derived from the participatory approach can be made relevant at the regional and/or national level.

2) While IDRISI has provided a very strong foundation in GIS for the Agency, SARSA II should also be exploring a more comprehensive approach to the use of GIS. For example, it is not difficult to conceive of planning situations in which ARC/INFO or some other GIS

system would be more appropriately used or in which ARC/INFO and IDRISI can actually complement each other. Greater attention should be paid to whether and how social data can be incorporated into GIS systems.

3) The research design, collection and analysis of all SARSA II projects could easily be made more gender-inclusive. The gender component needs to be incorporated into all projects rather than standing as isolated, dedicated investigations into gender aspects of development. The remaining outputs from SARSA II should definitely include a thorough discussion of the relevant gender issues and household literature.

4) SARSA II work that relates to NRM must include much more attention to the biophysical and spatial descriptions of the areas studied. Without greater attention to this kind of information, it is difficult to see the linkages of the social, political, economic and cultural aspects to NRM.

5) Although SARSA's themes appear to be relevant elsewhere, there have only been add-ons and OYB transfers from the Africa and Near East Bureaus. While this may be more related to factors specific to each AID regional bureau, SARSA II has had relatively limited geographic scope. With research experience in contract farming, peri-urban trade, labor issues such as migration and natural resource management, there is clear topical overlap between SARSA II and the LAC Bureau which should be further pursued. In addition to supporting private enterprise, the funding priorities of the Eastern Europe Bureau and the NIS Task Force (merged as of Nov. 1993 into the new Eastern Europe-NIS Bureau) have been directed toward "brown" (pollution) issues and democratic initiatives. SARSA II's record of research on the social and institutional dimensions of regional income generation and natural resource management, in addition to research on both local democratic traditions and democratic/participatory research methods would fit well with A.I.D.'s activities in these countries. Wherever possible, links should be revived and/or strengthened with the Bureau for Asia and the Near East.

6) Efforts should be made to bring a larger number of Clark geographers into the project during its final years. While it may be too late to build greater breadth and depth of geography's contribution into SARSA II, if this does not occur then a principal reason for the project's existence will not have been accomplished.

7) The Project Director needs to provide much more leadership of the intellectual effort to a) encourage greater integration of disciplines, b) encourage greater integration of institutions, and c) increase the visibility and usable format of results arising from SARSA II. The Project Director should be more actively involved in the field research and publication effort rather than serving only as the manager.

8) Much more importance needs to be placed on active participation by the Project Director and the AID Project Manager in structuring opportunities for interaction of researchers and to promote greater integration of institutions and of their research efforts. While some of

this interaction could occur at professional meetings with little additional expense, sufficient AID core funds should be made available to allow for workshops and principal investigator meetings focused on specific topics like ECOGEN, peri-urban research, natural resource management, etc.

9) Funding for VPI should be limited to support of the ECOGEN researchers at VPI who have effectively collaborated with similar efforts at Clark. For a combination of reasons, some of which were beyond the control of VPI, the agendas of VPI researchers did not generate Mission or Regional Bureau interest in the form of add-ons and are unlikely to do so during the time remaining in the project. The synthesis work contemplated during the last year of the project would be irrelevant except for the ECOGEN research.

D. FUTURE DIRECTIONS

SARSA I and SARSA II have expanded our knowledge of how non-economic social sciences can contribute to the understanding of development processes and problems. Many of the most vexing problems of development relate to competition and conflict over resources rather than to inadequate technical knowledge or inefficiencies in resource utilization. SARSA II has shown how social, economic, and political institutions articulate with and favor or discourage the responsible use of natural resources. These substantive findings have been complemented by the research of other geographers and anthropologists doing similar work. The elaboration of the political ecology framework, the incorporation of feminist political ecology into gender research, and the investigation of participatory approaches to development are among the most salient contributions of this project. The methodologies that have been developed to facilitate these analyses -- household level studies, PRA, GIS, and ECOGEN -- are now being disseminated and used by other researchers. In order to build on these accomplishments, the research team makes the following recommendations for future directions after the end of SARSA II:

1. Although not as much progress has been made toward a real integration of geography and anthropology, the methodologies and substantive findings of SARSA II do provide genuine prospects for accomplishing such a synthesis. Further work is required on linking microlevel and macro-level processes and on methodologies for showing these linkages. The greater exploration of the possibilities and limits of GIS, particularly to determine its utility for integrating biophysical and socioeconomic data at different levels of analysis, is required.

2. AID needs to have some means like a Cooperative Agreement for accessing the perspectives, theoretical insights, and methodologies of non-economic social scientists. They bring important perspectives, methodologies, theories and empirical findings to the development effort. Their efforts are critical, especially in the planning, monitoring, and evaluation of projects. While scholars from some universities are involved in the production of ideas, theories and methods that are relevant to these areas, their efforts are usually carried out in isolation and suffer from too little input from other attempts. The CA mode allows for the development of ideas among a large group of researchers working toward an

end goal. A follow-on project should be planned that responds to: 1) relevance to the EID portfolio and the anticipated research needs of AID, field missions and regional bureaus, 2) AID-relevant advances made in social science research (anthropology, geography, economics, political science, etc.), and 3) a coherent organizing theme that is likely to result in the possibility for real synthesis.

3. Two potential themes for a SARSA II follow-on are Natural Resource Effects of Changing Labor Dynamics (NARELD) and Democratic Institutions for a Sustainable Environment (DISE). These two potential themes fit well with AID's current reorganization. Discussion of these themes is found in Section V-C.

4. The Cooperative Agreement with an accompanying Basic Ordering Agreement seems to be an appropriate mode for these kinds of research activities. IDA, and to some extent Clark, have been quite responsive to the needs of missions and bureaus, while at the same time putting together research programs that are leading to generalizable conclusions. IDA has been especially effective in its substantive contributions, while Clark has been effective in developing useful methodologies. These contributions are much less likely to arise out of a contract, an IQC or other administrative arrangement. When cooperators are selected who are already doing the most innovative, or cutting-edge research, the Cooperative Agreement provides AID with a means of identifying and addressing critical research gaps through short- and long-term research.

5. The existing institutional structure has not worked. The evaluation team recommends that an open competition should be held for any future cooperative agreement. The previous records and accomplishments of the individual institutions should factor into the competition but the possibility of attracting new bidders with innovative ideas should be explored. Cooperative Agreements like this one seem much more compatible with the research mission of universities (especially land grants) than with consulting firms and this consideration should also enter into a request for proposals.

6. A future Cooperative Agreement should have an adequate budget to accomplish the tasks it is assigned and a stable, supportive administrative structure within the agency. Future cooperators should receive more assistance from AID in identifying services and abilities they have that is relevant to missions and bureaus. The agency also needs to recognize that it must provide sufficient funds to cover the transaction costs of collaboration -- especially face-to-face meetings of investigators to set research agendas, agree on conceptual frameworks, methods, the division of labor, and field research strategy for the project.

II. INTRODUCTION AND SUMMARY

A. INTRODUCTION

This report describes the key issues and concerns that were addressed in the mid-term evaluation of the R&D/EID/RAD-managed SARSA II project. The Cooperative Agreement is currently being implemented by Clark University, in collaboration with the Institute of Development Anthropology and Virginia Polytechnic Institute and State University. The evaluation was conducted during July and August of 1993 by a team of three senior professionals.

B. OBJECTIVES

The overall objective of this evaluation was to assess SARSA's accomplishments and performance to date and provide guidance for the future direction of the SARSA II project. As delineated in the logical framework of the Project Paper, four sets of criteria (project Goal, project Purpose, End of Project Status and Project Outputs) were to be used as the yardsticks for assessing project progress and relevance, reviewing the adequacy of current institutional arrangements and recommending substantive and institutional modifications for the future. Specific evaluation objectives were as follows:

- 1) Relative to the project Goal, Purpose, End of Project Status (EOPS - referred to in the SARSA II project paper as "Conditions that will indicate Purpose has been Achieved") and Outputs, quantitatively and qualitatively assess the substantive achievements and progress of SARSA II research and technical assistance activities;
- 2) Determine the adequacy and appropriateness of current institutional and managerial arrangements, including the tripartite relationship of the three cooperating institutions;
- 3) Assess the relevance of the project Goal, Purpose, End of Project Status and Outputs in relation to the current EID Office portfolio and also the anticipated research needs of AID, field missions, bureaus and the EID Office. Recommend appropriate changes in research themes, project implementation and management for the remainder of the Cooperative Agreement and a possible follow-on project.

C. BACKGROUND

SARSA II (Project No. 936-5452) was initiated in 1989 as a six-year project. It is implemented through a five-year Cooperative Agreement with an accompanying Basic Ordering Agreement (BOA). The SARSA II Cooperative Agreement is carried out by Clark University, in collaboration with the Institute for Development Anthropology (IDA) and Virginia Polytechnic Institute and State University (VPI).

The SARSA II project has followed two previous projects. The 1978-84 Area Development project was implemented first by the University of Wisconsin, Madison and later the agreement was changed to Clark University with a sub-contract to IDA. The 1984-1990 SARSA I project was implemented by Clark University and IDA.

An interim evaluation for SARSA I was completed in 1987 and a management review (covering SARSA I and II) was filed in 1990. According to the 1987 evaluation, "SARSA research and researchers have been of high quality and have produced information of high utility to the development community and to USAID Missions." However, the evaluators noted that the "intended integration of geographic and anthropological perspectives has not materialized to the degree anticipated" and that "a less than fully formulated and integrated long term research strategy" resulted in "somewhat uncoordinated and at times unrelated" field research.

The 1987 evaluation points to some institutional and managerial problems between Clark University and IDA. Post-1987 correspondence and the 1990 review suggest that although some of the problems between Clark University and IDA have been resolved, additional problems appear to have resulted from the addition of VPI as a collaborating institution under the SARSA II Cooperative Agreement.

The intended purpose of SARSA II is "to generate and apply knowledge of regional production and resource management systems, in order to enhance AID, other donor, and host country knowledge and ability to plan and implement projects, programs and policies resulting in broad-based, sustainable income growth." The SARSA II Project Paper sets forth two interrelated applied research themes:

- a) Integration of rural regions, including both rural and urban areas, into more efficient and equitable economic markets;
- b) The role in regional economies of the establishment, management and maintenance, in ecological balance, of sustainable natural resource systems.

The Project Paper states that, "SARSA II will specialize in the development and application of state of the art social, spatial, environmental and economic analyses to examine regional economic development." Through add-ons from the Women in Development Office, the SARSA Project is also expected to more fully integrate gender and WID considerations into other project activities.

The Project has now passed the mid-point of its duration and is well into the second half of the five-year Cooperative Agreement. At this juncture, it is important to compare what has been accomplished against the initial plans proposed in the Project Paper and Cooperative Agreement. In addition, the purpose of the interim evaluation is to investigate possible new research directions for the second half of the Project and other follow-on activities.

D. EVALUATION METHODS

1. Composition of the evaluation team

The evaluation team consisted of three members as follows:

a) Team Leader and Anthropologist. Dr. Billie R. DeWalt, Professor in the Graduate School of Public and International Affairs and in the Department of Anthropology and Director of the Center for Latin American Studies at the University of Pittsburgh, was the team leader. He was responsible for the overall management of the evaluation and for insuring the timely completion of the report. He was also responsible for leading the evaluation of the anthropological and economic research conducted under SARSA II, assessing the progress of the project toward achieving the purpose, EOPS, inputs and outputs, and identifying ways in which work in applied anthropology and resource economics should be pursued and disseminated during the remainder of the SARSA II project. He has extensive experience in applied anthropology research and training, with several decades of policy-relevant research on natural resource issues in Central America, South America, and Africa.

b) Geography/Geographic Information Systems Specialist. Dr. Lakshman Yapa, from the Department of Geography at the Pennsylvania State University, was responsible for assessing the project inputs and outputs related to geography and geographic information systems. In addition, he was responsible for providing advice concerning the substantive directions for geographic research to be undertaken during the remainder of SARSA II, for evaluating the utility of the Natural Resource Management work, and providing input to the evaluation of institutional collaboration. He has had substantial experience in conducting policy-relevant research and training on natural resource issues in Asia and the Near East.

c) Natural Resource Management and Women in Development Specialist. Dr. Nancy Diamond is a Natural Resource Sociologist and an American Association for the Advancement of Science Fellow with the RD/EID/RAD office at the U.S. Agency for International Development. She was responsible for assessing the project inputs and outputs related to the sustainable natural resource management theme and the cross-cutting WID/gender research. In addition, she was responsible for identifying ways in which research and dissemination of results on these themes could be enhanced during the remainder of SARSA II. Diamond also provided input on the institutional and management dimensions of the project. She has had extensive experience working on natural resource issues in Sub-Saharan Africa and East Asia.

2. Visits to Institutions

The evaluation team made site visits to Virginia Polytechnic Institute and State University, the Institute for Development Anthropology, and Clark University. The period of July 18 to July 20, 1993 was spent at VPI in Blacksburg, VA., from July 21 to July 23 at IDA in Binghamton, N.Y., and August 2 through August 6 at Clark University in Worcester,

MA. At these institutions, the team met with the key individuals who have been involved in SARSA II research, with administrators and other relevant university personnel familiar with the work of SARSA II, and with graduate students and others who are being influenced by the cooperative agreement. The USAID project manager sat in on most of the meetings during the site visits. When conversations were held concerning USAID's management of the project, he was asked to excuse himself from the meeting.

3. Queries of USAID Missions

Prior to the evaluation, a questionnaire designed by a member of the evaluation team (Nancy Diamond) and the USAID project manager (Larry Abel) was sent to USAID missions in countries in which SARSA II activities have been carried out. The questionnaire was designed to determine how SARSA II activities were viewed by the missions, focussing especially on the timeliness with which project activities were established and completed, their utility to the mission, host government, and other institutions in the country, and how administrative and financial matters were accomplished. The quality of responses from missions varied considerably so that no quantitative analysis of the questionnaires was warranted. The evaluation team used these questionnaires in more of an anecdotal way to shed light on how missions viewed SARSA II projects.

In addition to the questionnaires, the evaluation team contacted and interviewed USAID personnel whose current assignments were in Washington. In a few cases, telephone calls to missions were made to discuss the project with key individuals who had extensive experience with SARSA II. Due to budget constraints, the evaluation team was unable to review any of the SARSA II efforts in the countries in which it has worked.

4. Literature Review

Given the extensive nature of written materials produced by the SARSA II institutions, the evaluation team divided the work according to disciplinary and geographic expertise. Yapa primarily reviewed documentation pertaining to geography, geographic information systems, natural resource management, Asian countries, and materials on Africa. Diamond concentrated on natural resource management issues, gender analysis, and Africa. DeWalt principally analyzed materials relating to anthropology, economics, and Latin America.

5. Other Inputs

The review team also solicited inputs from individuals from cooperating USAID offices (e.g. regional bureaus, Women in Development, R&D/ENV), other donors, and other interested organizations and professionals. Of necessity, almost all of these contacts were made in the Washington area. A complete list of those individuals contacted is contained in Appendix A.

E. SARSA II ORGANIZATION AND STAFFING

The SARSA II Cooperative Agreement (C.A.) is headed by a Project Director at Clark University (with whom the C.A. is signed). For managing SARSA II, the Project Director receives approximately two months of summer salary. During the academic year, his salary is covered by Clark University. There is also an administrative assistant whose salary is paid by SARSA II. In addition, a small percentage of the salary of a grants administrator at Clark University is paid by SARSA II.

At IDA and at VPI, there is a single individual responsible for administration of the Cooperative Agreement. The leader at IDA has been stable since the inception of SARSA II. He works well with the Project Director at Clark University and has been instrumental in generating add-ons and organizing and/or carrying out research in Africa. IDA has a financial administrator who manages the funds. She and her counterparts at Clark have established a good working relationship.

In contrast, the leadership at VPI has been very unstable. Those originally responsible for the CA at VPI have either left the institution or moved into positions with other responsibilities. Other individuals responsible for SARSA II stepped aside because they became frustrated with what they perceived as ill will from Clark and IDA. The result is that the current leader of SARSA II at VPI is the sixth since 1987. VPI officials report that the major administrative problem is that SARSA II core funds are not received until 6 to 8 months after the allotment period. Then, they feel that they are badgered by the Project Director because they are not spending all of the money allocated to them in a timely manner.

The three institutions are represented at the annual work-plan review meetings that are held with members of R&D/EID and representatives of the geographic bureaus and other AID offices. In addition, the project directors from each institution are supposed to meet at least once each year to develop a common work plan. During the development of the last two work plans, VPI apparently was not invited to participate. A substantially reduced budget was presented to VPI as a *fait accompli*. Apart from the meetings to review the work plans and one or two steering committee gatherings each year,¹ there are few or no opportunities for SARSA II researchers to meet to interchange ideas and results.

Specialized libraries exist at both Clark University and the Institute for Development Anthropology. At Clark, an old house contains the library for several institutes that study environmental and international issues. SARSA II holdings comprise a small portion of these larger holdings. A small part of the librarian's salary was at one time paid by SARSA II but this is no longer the case. SARSA II also has offices in this same building.

¹ The Project Paper calls for "several" steering committee meetings each year.

In the offices it rents, the Institute for Development Anthropology has devoted considerable space to building a library that is of service to SARSA II and related projects. Its collection has grown to 18,300 documents, many of them reports and other difficult-to-find "gray literature." These are all indexed. IDA makes its materials accessible to researchers from around the world and each year the library is visited by people from a variety of institutions. Progress has been made in linking IDA's library holdings with those of the State University of New York at Binghamton.

VPI was brought into the project in part to provide a Washington-area office and to develop a means by which missions and others interested in SARSA II work could communicate electronically. It was planned that reports and other documents could be shared in a rapid and timely manner. VPI staff in the Washington office were never very successful in generating add-ons to the project and the office closed approximately 18 months after the inception of SARSA II. The electronic communications system was never developed. VPI has no separate SARSA-related library collection.

III. BASIC FINDINGS -- RESEARCH AND TECHNICAL ASSISTANCE

The research and technical assistance conducted under SARSA II is quite disparate in terms of major research areas. For purposes of this evaluation, we divided the work into the following major types of work -- spatial, natural resource management, and socioeconomic analyses. In addition, because a major cross-cutting theme to be addressed by all AID projects is the gender/WID component, we included this as a fourth theme. Lakshman Yapa was responsible for critically evaluating the work in the spatial analysis theme. Yapa and Nancy Diamond collaborated in the evaluation of the natural resource management work, Billie DeWalt was responsible for the evaluation of the socioeconomic component, and Diamond evaluated the gender/WID research. These themes are, of course, quite interrelated to one another so much of the work will be referred to within several of the themes. In addition, because the issues of synthesis and dissemination cross-cut the various themes, these two aspects of our evaluation are discussed in a separate section rather than within each of the major research areas.

A. SPATIAL ANALYSES

One of two principal research objectives of SARSA II is to contribute towards "...integration of rural regions, including both rural and urban areas, into more efficient and equitable economic markets." The regional element is also relevant to the other major SARSA objective, namely, the sustainable economic use of natural resource systems (See Section II.B). Despite the regional emphasis in the project paper, few studies under SARSA II (except for the GIS component) make explicit use of the formal methods of regional and spatial analysis. In that sense, SARSA II differs from SARSA I. The latter employed, in a central way, the tools of regional analysis such as central place theory, settlement hierarchy and distance-decay interaction functions. Although SARSA II has not embraced regional analysis explicitly, it is still an underlying, important aspect of the work of the Cooperative Agreement.

For the purpose of the mid-term evaluation, we have recognized six ways in which the regional analysis concept is commonly employed in the literature: (1) region as context; (2) region as a place; (3) formal spatial analysis; (4) formal regional analysis; (5) issues of geographic scale; and (6) regions as social construction. The most rudimentary application of the regional idea occurs at the level of "region as context" where the region simply provides a background to the discussion of a topic such as migration or marketing. In "region as place" the focus is on specificity where information about a place carries an intrinsic importance; for example, this is the case with indigenous knowledge systems. Formal spatial analysis refers to use of established techniques of map analysis such as map overlay and distance buffers. Today's GIS is basically a computerized version of traditional techniques of cartography and map analysis. Formal regional analysis refers to the use of regional theory and models in studies of such processes as human settlement, migration and economic growth, a theme which was a central focus in SARSA I. Under "issues of scale" we refer to problems that arise in shifting our focus from micro regions to large-scale macro

regions. Finally, the concept of "region as social construction" states that the meaning of a place to its inhabitants and access to its resource base are mediated through social institutions such as class and culture. We shall use this scheme to examine the use of spatial analysis (in this instance the term is used very broadly) in SARSA II; we shall use it to not only characterize the way in which a particular SARSA project has employed the regional idea but also to suggest how it might be used to better meet the objectives of the program.²

Quantity: Clark University's work in SARSA II falls into three clusters: GIS, PRA and ECOGEN. A fourth cluster with a single node is the IPM project conducted jointly with VPI and IDA (separate comments on the IPM project appear in Section III.B). Spatial analysis in SARSA II is completely dominated by GIS as embodied in IDRISI at Clark. Of the mission add-ons (by value), 90 percent of completed projects and over 50 percent of the on-going projects are related to GIS. It is difficult to make a quantitative assessment of SARSA with respect to GIS because the principal output is a single system of software for spatial analysis and mapping. Under SARSA II sponsorship, the following GIS activities were conducted: (1) the production of a promotional booklet with examples from GIS; (2) A GIS handbook to be used in missions to enable decision making on the purchase of a GIS system; (3) GIS training sessions in Haiti, Botswana, Uganda and Bolivia; (4) a workshop on the possible use of GIS in the rehabilitation of degraded land in India; (5) an example demonstration of the use of GIS in the Sahel by estimating potential agricultural output by *arrondissements*; (6) a proposal for use of GIS for monitoring smallholder agricultural production in Malawi; and most recently, 7) the use of GIS for monitoring natural resource management in Malawi. Some SARSA II funds were also used towards the development of GIS software as a tool of decision making using the methodology of multi-objective decision functions.

The spatial component in PRA and ECOGEN is related to the use of "region as place." Detailed concrete information is collected for the villages where the case studies were done. Apart from the concrete case studies, both PRA and ECOGEN conducted extensive training in the collection and use of spatial data.

IDA's SARSA II work covers projects on land degradation in Bolivia, smallholder farming in Malawi, peri-urban themes in Africa, a water project in Tunisia, monitoring the middle valley of the Senegal River Basin. In many of these studies the region appears

² The terms "spatial" and "regional" are used interchangeably in the literature; we have followed that practice in the report. Because of the way SARSA language has evolved we have been forced to use the term "spatial analysis" in two contexts. One refers to a general usage where the term covers all six meanings of the term "region" described above, and the other is a reference to formal spatial analysis as incorporated in GIS. Similarly, the term "regional analysis" is used in our report in two contexts. One is a general reference to cover the six meanings of the word region as employed in the report and the other is a reference to formal regional analysis used in theories of regional economic growth. Hopefully, the manner in which we have used these terms will be evident from the context.

simply as context, a country or a place in which a topic is studied. Sometimes statistics are compiled by regions, but there is no regional or spatial analysis. Despite the excellent social analysis, IDA research is striking for its rudimentary or non-existent use of map analysis. It should be noted, however, that the projects in Tunisia and Senegal are exceptional in their use of spatial analysis and of region as place. In Tunisia, IDA researchers used a GIS-based methodology for the siting of boreholes for water points. In addition to hydrological data, the methodology used socioeconomic criteria in siting of water points to assure socially equitable access to water. The Senegal study used GIS and topographic data to determine the areas that would be flooded at various levels of water-release from the Manantali dam. In addition the Senegal study is an excellent example of the use of region as place; the case was made for an artificial flood using detailed knowledge of place-specific livelihood activities along the river (see Section III.B).

VPI's SARSA work in peri-urban themes and ECOGEN were carried out as special projects. The study of Integrated Pest Management (IPM) in Mali was financed by the Africa Bureau in AID/W and implemented as a joint project with Clark University and IDA. The peri-urban studies had no special regional component to them. The ECOGEN case study was done in a village on Leyte Island in the Philippines and employed the notion of region as place. It highlighted the place- and gender-specific nature of resource use and management. Potentially the IPM study could have involved use of the regional concept in several different but complementary ways, but the study was poorly designed (see Section III.B).

To date, there has been no SARSA II work done in Eastern Europe or the Newly Independent States. The only SARSA II work in the Near East was in Tunisia. Only ECOGEN and IDRISI work was done in Asia. Work has been done in quite limited number of Latin American/Caribbean countries. Thus, there is a lack of data on some important regions of the world.

Quality: Despite the stated objective in the project paper, the regional idea has not been used as a unifying theme in SARSA II research. A major finding of the SARSA I evaluation was that the intended synthesis between anthropology and geography had not occurred. The concepts of culture and region are obvious candidates for achieving such a synthesis, but this potential was not tapped during SARSA II. One of IDA's central theses is that the relationship between people and their habitat depends on social institutions governing access to resources. Likewise, the meaning of a region (the habitat) to its inhabitants will be mediated through culture and other social institutions. As yet, no SARSA resources have been devoted to exploring the question of culturally mediated regions as a synthesis theme.

The most dominant element of SARSA II's spatial analysis is related to Clark University's IDRISI-based program in GIS. IDRISI is an excellent low-cost, raster-based GIS system with extensive capabilities in processing satellite image data. It was developed at the Cartography Laboratory of Clark University by Ron Eastman, of the Geography faculty, as a low-cost alternative to the more expensive GIS software in the market. The cartography

and GIS facilities at Clark are primarily designed to support graduate and undergraduate teaching. IDRISI can interface with popular database programs like dBASE and can exchange spatial data with other GIS programs such as ARC/INFO and GRASS. There are over 8,000 registered users of IDRISI; because the software is not copy protected, there is also a substantial community of non-registered users especially in host countries.

The GIS lab employs a staff of over thirty people including two faculty researchers and several senior graduate students. The lab represents a strong well-established academic unit within Clark University with on-going activities in development of software, teaching and GIS training both in the US and overseas. SARSA funds enabled the early development of IDRISI software, some early testing of the program in application to natural resource management, and its dissemination through mission buy-ins.

IDRISI is a technically sound, well-received, low-cost, easy-to-use system of GIS software, well-adapted to the needs of training of regional planning professionals in the Third World. However, an evaluation of the SARSA capacity to service the Agency's needs in the area of GIS should go beyond a discussion of the technical merits of IDRISI. While the examples currently available of IDRISI applications were quite useful for demonstration purposes of training and teaching, they did not help us to ascertain the system's full capability as a functional planning tool for integrating large data bases and multiple map layers. IDRISI is primarily a grid-based system that is well adapted to the spatial analysis of digital data from satellite images. This is a very useful feature for those purposes where the analysis of image data is appropriate or when they are the only source of data available. IDRISI's capabilities in the analysis of vector data is less well developed compared to a system such as ARC/INFO which, however, is a very expensive system. But the appropriateness of GIS software cannot be judged on price alone; it also depends on the complexity and magnitude of the problem being analyzed. The Boolean logic of overlaying maps is the heart of a GIS system. IDRISI performs this operation by overlaying two maps at a time. Moreover, the overlaying of a vector map requires that the polygons be first converted into raster mode. The IDRISI module for rasterizing polygons is very good. Nevertheless, this process can be quite tedious and time consuming when working with a large number of maps with complicated vector data. While training has been a dominant activity of IDRISI under SARSA, GIS should be established in conjunction with on-going project activities of the mission; this would provide a better basis for evaluating IDRISI in all stages of project activity. The recent add-ons to use GIS to monitor smallholder agricultural production and to monitor natural resource management in Malawi may well provide that opportunity. Given massive training needs in host countries, the SARSA decision to build on IDRISI was quite appropriate. But for the purpose of broader Agency needs, SARSA needs to go beyond IDRISI and develop a more comprehensive approach to the topic of GIS. Besides its technical competence in IDRISI, SARSA needs to develop accessible technical skills in other GIS software. For example, it is not difficult to conceive of planning situations where ARC/INFO and IDRISI can actually complement each other. While IDRISI has provided a very strong foundation in GIS for the Agency, SARSA should explore a more comprehensive approach to the topic.

Village-based data in PRA and ECOGEN use the concept of region as place. One of the central claims of community-based development projects like PRA is that resources can be "uncovered" in a place through the lens of local people. While conceding this point, some critics argue that the impact of PRA is too local and that many problems cannot be solved by working only at the local level. SARSA researchers like Richard Ford have tried to respond to such criticisms by linking community level information from PRA to GIS by aggregating village level information using a concept called "scaling-up." The problem here is that aggregating PRA data is not a scale-neutral exercise. PRA's strength is that its information is locally rooted; the question is how and what do you aggregate without losing sight of why we go to the local community level in the first place. GIS is a technique that evolved to deal with objective, numerical "scientific" data. The methodologies for incorporating indigenous local knowledge in GIS do not yet exist. The scaling-up of PRA requires the development of new methodologies; some of the techniques for scaling-up may be available in the newer IDRISI modules of multi-objective decision functions.

We observed earlier that IDA initially employed GIS as part of their SARSA research in Tunisia and Senegal. In the Tunisian project, GIS was used to determine locations for bore holes for water points. In Senegal, GIS was used to determine the area covered by artificial floods. The Senegal study provided an excellent example of the use of local place-specific knowledge to counter the arguments of formal science of the engineers who are operating the Manantali dam.

Relevance: Under SARSA II, most add-ons represent a demand for GIS. There has been little explicit demand for other aspects of regional analysis. Dan Dworkin, who is an alumnus of Clark University's Department of Geography, a previous project manager of SARSA, and who is now in AID's Africa Bureau, has strongly endorsed the usefulness of GIS to the mission work in Africa. He has distributed a large number of copies of IDRISI to host countries in Africa and coordinated several training sessions. As we observed earlier, most of the mission work in GIS is related to training. There are no examples of a long-standing project that has used GIS. This situation will change with the two projects proposed for Malawi and subcontracted to the University of Arizona. GIS will be used from the beginning as an integral part of project planning, implementation, monitoring and evaluation. Demand indicates that training in PRA is highly relevant for host countries. Although PRA collects spatial data and uses visual devices such as sketch maps, it is difficult to analytically separate the role that spatial analysis plays in the demand for PRA services. Spatial analysis played initial important roles in IDA's work in Tunisia and Senegal; in fact, the effectiveness of the Senegal study was to a great extent dependent on the skillful use of place-specific knowledge in the final cost-benefit analysis.

Impact: Given the centrality of the idea of region to SARSA II, the total impact of spatial analysis on projects could have been larger. On the positive side are: 1) the large GIS training component in host countries, 2) skillful use of IDRISI by host country researchers as in the land suitability study done in Sri Lanka, 3) PRA's use of spatial reasoning with villagers in resource mapping, negotiation and conflict resolution, and 4) the use of GIS and

place-specific knowledge in affecting government policy in Tunisia and Senegal. The impact of SARSA II could have been greater if regional analysis had been used as a unifying theme. There is a great need, for example, in determining how people view their habitat and how the meanings they attach to habitat are mediated through culture and other social institutions.

B. NATURAL RESOURCES MANAGEMENT

One of two principal research objectives of SARSA II is to explain "...the role in regional economies of the establishment, management and maintenance, in ecological balance, of sustainable natural resource systems."

Quantity and Quality: It is difficult to provide a precise quantitative estimate of SARSA's contribution to the topic because every project dealt with some aspect of natural resources such as access, uses, users and environmental degradation. Moreover, the approach to this topic varied significantly among the three co-operating institutions, and within institutions, among different researchers. The definition, perception, and meaning of a resource to a given user group are mediated through a complex web of interacting relations -- technical, social, political, cultural, and ecological -- which for short we shall refer to as the nexus of resource relations. Technical relations refer to aspects of resources determined by the technology used in harnessing them. Social relations refer to issues of ownership, social control and access. Political relations refer primarily to the role of the state in the development, control and use of resources. Cultural relations refer to "the ways of life" of social groups as embodied in shared meaning, beliefs, values, and local informal knowledge. Biological components, their relationship to each other and their spatial distribution are considered under ecological relations. This framework will be applied to the work of each of the cooperators.

Among IDA's SARSA II projects are the following: (a) peri-urban economies in Africa; (b) estate farm management in Malawi; (c) Tunisia potable water studies; (d) watershed effects of a high dam constructed on a tributary of the Senegal River; and (e) land degradation in Bolivia. Work on peri-urban areas focusing on labor markets, and the project on estate management in Malawi did not contain large natural resource components. The Tunisia project on water use authorities used map overlays to determine best locations for constructing water points, but the innovative aspect of this work was the recommendation for the formation of water users' authorities. Two examples illustrate the quality of IDA's analysis of natural resource management: 1) Painter's study of land degradation in highland Bolivia and, 2) the study of the Manantali dam in the Senegal River Basin conducted by Horowitz and Salem-Murdock. IDA has used a "political ecology" approach which asserts that people's use of natural resources depends centrally on the social and economic relations that define conditions of production and reproduction.

Painter used the approach of political ecology in a study of land degradation in the highland farms of Bolivia in the context of coca cultivation in the Chapare region of Cochabamba. The study reported that poverty in the highlands is caused by a vicious cycle

that begins with lack of access to good land, followed by out-migration of male labor, isolation of women left alone to care for both families and farms, consequent land degradation, all leading to the reproduction of poverty. Regional data was used to show that " ... the solutions to environmental degradation do not necessarily lie in the area where the degradation is occurring." Using the framework of the nexus of resource relations, we see a clear and strong focus on social and political factors behind land degradation but a neglect of other important relations. For example, consider the study's finding that highland people were too poor to buy required agricultural inputs such as seeds, fertilizer and pesticides, implying that the solution is better access to cash to buy inputs. But this analysis treats agricultural technology as a given, a constant created in a social and political vacuum. Indeed, research that made agriculture so dependent on commercially purchased chemical inputs is partly responsible for poverty and land degradation -- an example of the technical relations of resources.

Furthermore, the Bolivian study presented the concept of land degradation in an abstract way. It gave little detail on the bio-physical aspects of ecological relations and on cultural aspects of local informal knowledge. The study contained no useful maps or information on the nature and extent of land degradation. IDA's political ecology, as exemplified in the Bolivian research, was strong on political and social relations but weak on equally relevant technical, cultural and ecological relations of resources.

The research on Senegal focused on the downstream social and production implications of a project begun in 1972 by Senegal, Mauritania, and Mali to construct and operate a dam on the Bafing River in Mali. The dam was to provide water for double-crop irrigation and hydropower. The SARSA II research was to devise a management strategy that would mitigate the possible negative socioeconomic consequences of the dam while still allowing a reasonable use of water for hydropower and irrigation. The focus of the IDA research was the effect of an "artificial flood" on production systems in the middle valley of Senegal and to test the hypothesis that net benefits to the local, regional and national economies would be greater under controlled artificial flooding than they would be if hydropower and irrigation were the exclusive foci. The IDA cost benefit analysis included a formal model for the hydrological analysis of water availability behind the dam; in addition, it used several anthropological techniques to incorporate use values of local knowledge and informal economies. The Senegal study is a good example of how IDA was able to integrate technical, cultural, economic, social and ecological factors in making its case against the strictly engineering approach to the regulation of water flow from the dam. As the study pointed out, the benefits from a seasonal flood were not confined to recessional agriculture but they also included dry season grazing land for cattle and the manuring of fields in the floodplain, opportunities for fishing, the conservation of forests along the river providing fuel and fodder and access to well water from the annual recharging of the water table.

While political ecology provided a unifying thread to IDA's work, there has not been a similar overriding theme at Clark University. As in other research, Clark's work on natural resources fell into three separate clusters defined by GIS, PRA and ECOGEN.

IDRISI is an excellent low-cost, raster-based GIS system with extensive capabilities in processing satellite image data. IDRISI's strength in analyzing image data is particularly valuable given the paucity of sources of environmental data in Africa, Asia and Latin America. IDRISI's incorporation of time series analysis into GIS allows continuous environmental monitoring for changes in land-use, land quality and water supplies. Using the framework of the nexus of resource relations, it is fair to characterize IDRISI as primarily dealing with bio-physical aspects of resources (describing resource quantity and quality) rather than the ecological relationship among biological components. Recently, IDRISI has also developed training modules for working with multi-objective, multi-criteria decision-making models with UN funding.; these are designed to involve competing interest groups in participatory decisions of resource allocation. Some case study material is available for these modules. With this work, now there is potential for linking PRA-type community methodologies with GIS. Such a step would move GIS closer to social and cultural relations of resource analysis. However, this work generally falls short of expectations. For example, the forestry UNITAR manual describes forest management circa the 1970s in which social variables are nearly non-existent. While the training material produced by IDRISI is of outstanding technical quality, there is as yet no good example of a long standing SARSA II project on the use of GIS in natural resource management.

PRA (Participatory Rural Appraisal) developed by Clark University is a methodology that helps to prepare and implement a Village Resource Management Plan based on local participation. The PRA team collects historical, spatial, social data, village sketch maps, transects, time-related data, crop calendars, and information on community institutions. By inviting villagers to rank order their problems and suggest possible solutions, PRA is engaged in a unique process of "discovering and mobilizing" local resources within the community. While PRA is strong in establishing the human ecology and cultural relations of resources at a local level, it is weak in addressing social and political relations of ownership and competition as emphasized in IDA's political ecology.

ECOGEN's basic approach to resources is similar to that of PRA in that both employ techniques of participatory rapid rural appraisal; however, ECOGEN work is guided by a conceptual framework based on feminist political ecology. It is accurate to say that ECOGEN research is strong in the analysis of cultural and social relations of resources. Some of the case studies, for example, the study in Pwani, Kenya was quite strong in using techniques of ethno-botany and providing useful data on women's specialized use of ecological niches in the environment. In others, the natural ecosystem is not adequately described from a biological standpoint (e.g. species names and distribution).

VPI's program in resource-related research covered work on ECOGEN themes and a project on Integrated Pest Management (IPM). While the ECOGEN work has been guided by a feminist political ecology framework, the VPI special studies relating to natural resources appear to be driven by neo-Malthusian analyses (i.e. increasing population leads to increasing resource degradation). ECOGEN work was done in close collaboration with Clark and is of a very high quality. The case study done in the Philippines contains several

very good examples of the gendered use, control and management of natural resources. The IPM study was a collaborative effort with Clark and IDA in which VPI provided expertise in entomology. The IPM study could have served as a good example of the use of social science in an ecological problem but the research fell short of that potential. The study of IPM in the context of local knowledge systems requires a sophisticated synthesis of a large body of material which includes growth stages of plants, life cycles of pests, data on agro-ecological zones, impact of weather, pesticides, cultivation practices and indigenous knowledge systems. Much of this is also knowledge that is extremely place and culture specific. The design of the IPM study by Clark, IDA, VPI and AID/AFR did not reveal a sensitivity to the complexity of the problem under investigation. On the other hand, AFR/ARTS/FARA was pleased with the work and has recently agreed to provide an additional \$100,000 to extend the work to other parts of Africa.

On balance, most of the SARSA II Natural Resource Management work has been in Africa. A limited amount of work has been done in the LAC region where funds for research are more restricted. Only a small amount of research has been done in Asia and the Near East (Tunisia). None has been done in Eastern Europe or the Newly Independent States.

The extent of peer review for the NRM work varies. Much of the IDA work has been or is about to be published in peer reviewed journals or edited volumes. The Clark methodology papers and case studies are mainly reviewed on campus and within AID but less frequently by outside academic peer reviewers. Some of the conceptual work (e.g. ECOGEN) is now being submitted or in press in academic outlets. For VPI, a few of the SARSA II special studies have been published in peer reviewed journals.

Some of the SARSA II NRM work has made a significant contribution to knowledge in the field. In particular, the IDA work in Latin America and Africa has helped to elaborate and refine the political ecology analytical framework. Their river basin studies represent another unique and holistic contribution to a better understanding of NRM issues within a cultural and social context. The ECOGEN work of Clark and VPI is elaborating and refining methods of analysis derived from feminist political ecology. These research advances are furthering our understandings of the very critical role that people, especially their interpretations, conflicts, and interactions, play in altering habitats. The policies that result from these understandings should be much more capable of contributing to sustainable NRM strategies.

Relevance: Understanding the SARSA concept that the significance of natural resources and environmental degradation are socially determined is vital to AID's interests in economic growth and sustainable natural resources. However, the expression of this theme has been uneven in the various SARSA projects. The relevance of social science in the definition of resources was most evident in IDA's Senegal study. The accuracy and relevance of the findings is reflected in positive acknowledgements by the AID Mission, the Government of Senegal and representatives of people living in the middle valley of the Senegal river. The study of the political ecology of migration, coca cultivation and land degradation in Bolivia

was not only relevant for understanding the causes of peasant poverty but it also helped to re-examine the effectiveness of coca eradication and crop-substitution programs.

The relevance of GIS, PRA and ECOGEN to resource analysis is easy to understand. GIS represents the largest SARSA II component by value of mission add-ons and is an invaluable asset for natural resource management planning. PRA has a very useful community approach to the harnessing of village level resources. While some academics have complained that PRA is neither original nor rigorous, if one were to judge by the demand that exists for PRA training it is clear that AID Missions find this work to be very relevant to their country needs. ECOGEN has added a very important dimension to issues of resource analysis. Though AID/W sees gender as an important cross-cutting issue and the WID office has assisted in sponsoring this research, so far no mission has paid for an ECOGEN project out of its own funds. This situation, however, may be more attributable to weak relations of ECOGEN researchers with missions rather than the work's inherent relevance to AID mission staff. These issues are discussed in detail in the WID/gender section of the evaluation.

To date, SARSA work has not made explicit connections to biodiversity and other global environmental issues. As mentioned above, the research which comes closest is Rocheleau's ECOGEN piece in Pwani, Kenya on indigenous science. The biological descriptions of research sites (plants, animals, etc.) are generally absent.

Impact: The impact of SARSA work on NRM can be traced through its effects on mission policy and host country institutions. Success stories in this regard are the adoption by the Government of Tunis of a program to expand water user associations and the reversal of the Government of Senegal's decision to stop their annual controlled flooding program, both based upon IDA research. While there is no example of a long standing GIS project on natural resources, SARSA II has made a significant impact in the area of GIS training. PRA too has made a large contribution in the host countries in the training of PRA methodology; additionally, the International Development Program at Clark University has developed an institutional capability at Egerton University in Kenya to conduct this training locally.

C. SOCIOECONOMIC ANALYSES

The Project Paper for SARSA II established a very broad mandate for socioeconomic work associated with natural resource management and use. It envisioned building on several of the important initiatives established during SARSA I, specifically focussing on regional economies and rural/urban processes, while giving much less importance to work on settlement and resettlement issues. Over the course of the project, each work plan has subtly shifted some of the emphases of SARSA II. This shift of emphases has occurred in large part because of the changing interests and directions of A.I.D.. SARSA II is to be commended for being responsive to these changing interests (in fact, it has been necessary in order to generate project add-ons), but the result is that it is difficult to characterize the research within specific themes. This is especially the case with the socioeconomic research.

For purposes of this evaluation, we have categorized the work into the following thematic areas: household resource management; labor dynamics and land use; peri-urban economies; and local institutions and water management. Most of this work has been done by IDA. Clark's socioeconomic research has focused on the development of the PRA and ECOGEN methodologies. Only the first of these will be covered here; ECOGEN work is discussed in the gender/WID section (III.D) that follows.

Quantity and Quality: The SARSA II project has generated an impressive list of publications (see Appendix B). Many of these are in the form of reports, while others have been turned into peer-reviewed publications. The principal socioeconomic researchers in SARSA II have a long history of association with their institutions and of dealing with development issues. The work and publications of Little, Painter, Salem-Murdock, Horowitz, Slayter-Thomas, Ford, Rocheleau, Butler-Flora, and Eastman reflect a career trajectory that has made them well-known in their respective disciplines. SARSA II has made it possible for them to continue their work at the same time that they work with younger scholars whose associations with IDA or Clark are for purposes of individual projects.

As noted earlier, IDA's work (that fits within the themes of household resource management and local institutions and water management) on the effects of the Manantali Dam on downstream production and incomes in the Senegal River Valley has generated several reports and publications. This long-term research has been very effective in showing the economic benefits of recession agriculture, especially in comparison with the planned irrigation projects, in Senegal. IDA's conclusion that "controlled floods" be a part of river basin authority management has been adopted as policy by the Government of Senegal. A large amount of household data have been collected in this project but analysis so far has been largely limited to descriptive statistics. While the evaluation team does not want to encourage use of inappropriate analyses, we hope that IDA researchers will make greater use of the extensive household data in the synthesis report that is planned.

The peri-urban economic research in Mozambique also has appeared to generate good results. Undertaken in collaboration with the ACCESS project of the Land Tenure Center and the FIRM project at Ohio State University, a final report to the USAID mission was completed in 1991. The resulting baseline report is a fine portrait of land, labor, and capital markets in the region around Maputo and should be quite important in assisting the government, USAID, and other donors in developing projects that meet the needs of people. A similar research effort is under way in Gambia and there are plans to expand research on this theme to Ghana and perhaps other countries in Africa.

The most visible product of work on labor dynamics and land use has been in the Bolivia effort of IDA. Here again, a large number of reports and publications have resulted from the work. These are excellent reports documenting with historical and migration data how coca production in the Chapare region must be seen in a larger context. The inability of people to economically survive in highland regions leads to migration to the Chapare and to the growing of coca in the absence of other viable economic alternatives. The major

drawback to IDA research in Latin America is that it has been largely confined to Bolivia and has not been done in other countries.

The other IDA research that has had a major impact in terms of publications is the work from Tunisia on local institutions and water management. Because of earlier IDA involvement in the country, the institution was asked to collaborate through SARSA II with the ISPAN and WASH projects in order to determine how to organize water user associations. The reports and publications resulting from this association demonstrate how effective the research and training activities were.

Although the above descriptions highlight just a few of the contributions of IDA, the overall output generated is truly impressive. IDA has justifiably established an excellent reputation for the quality of its work in both academic and non-academic circles. Its staff are successful in generating reports that are generally useful to AID and other donors while at the same time turning these into articles and books that meet the standards of peer reviews for academic publication.

Clark University's main contribution in the socioeconomic area has been in the development of the Participatory Rural Appraisal (PRA) methodology. It is apparent that there is substantial interest in the PRA methodology among donors and governments. However, a major drawback is that the PRA (and ECOGEN) must be linked to means by which the community action plans can actually secure resources to be implemented. To their credit, Clark researchers are now paying much greater attention to this aspect of the work.

VPI socioeconomic work has all occurred within the context of the "special projects." A variety of reports on this work have been produced. Most of the work appears to be of good quality from an academic point of view, although very little has yet made its way into peer-reviewed publications.

Relevance: The socioeconomic research undertaken as part of SARSA II has generally been relevant to the concerns of policy-makers within AID. The list of add-ons attests to this interest. It is important to point out, however, that the issue of relevance is still very much dependent on who commissions the research and the use they make of it. That is, many of the add-ons resulted from work commissioned by regional bureaus (e.g. peri-urban), regional offices like REDSO (e.g. household income strategies), or individuals in missions who happened to be more knowledgeable about, or sympathetic to social scientific techniques and potential contributions (e.g. water user association work in Tunisia). In other cases, the work was well-regarded for its relevance to the host country while the agricultural development office and some mission officials reported that it had little utility to USAID priorities (e.g. Senegal). USAID and the Office of Technology Assessment found the work in Bolivia to be very useful for reorienting programs to control coca leaf production, while some officials in Bolivia were reportedly displeased with the results and implications of the work.

The relevance issue is difficult to answer because of the disparate nature of the projects undertaken in SARSA II. The lack of a coherent unifying theme means that each project needs to be assessed independently and, as we have pointed out above, the assessment will depend on the perspective of the person doing the evaluation. For example, this evaluation team has no difficulty in saying that the Integrated Pest Management activities are peripheral to the overall themes and goals of the project, but those in the Africa bureau who are funding them obviously think they are relevant.

IDA and Clark socioeconomic research is broadly relevant to the needs of missions, regional bureaus, and host country governments. Their work is tied closely to these organizations and their SARSA II activities are oriented toward responding to those needs. VPI's special projects are broadly relevant to development concerns and issues but, because they have largely occurred without mission, bureau, or host country involvement, they have been less relevant.

In general, the socioeconomic research of SARSA II has been part of, and has contributed to, important emerging trends in social science analyses of development processes. The IDA work on household level economic strategies, while not yet fully developed, is similar to the best work being carried out by other researchers in Africa and Latin America. The work on political ecology is identifying the more important historical, political and economic factors associated with resource use and abuse. This work, however, has just begun to link up the micro-level dynamics with the macro-level processes. This is an important area for future research. Through edited volumes produced by the principal researchers at IDA, their research results are put into juxtaposition with the work of other scholars doing work on the same theoretical issues and substantive topics. These edited volumes also show the relevance of their work for other regions of the world in which they have not worked, especially other areas of Latin America. The applicability of their methods and findings for Asia, most of the Near East (except Tunisia) and Eastern Europe/NIS, however, is still an open question because of the lack of work in those regions of the world.

Impact: The impact of SARSA II socioeconomic research can be demonstrated in a number of cases. Based on letters from authorities in Senegal and a testimonial from the former USAID mission director, the work of IDA has been key to the policy-making process. In addition, the response to the evaluation questionnaire sent to the USAID mission included the following statements:

As a result of the research, the Government of Senegal and eventually the Senegal Valley River Authority (OMVS)³ reversed their position on a water management policy that would have resulted in eliminating recession

³ So far as the evaluation team knows, this statement is incorrect. OMVS has not yet adopted this as a policy position.

agriculture from a large stretch of the Valley as well as destroying fishery resources. IDA was able to demonstrate the importance of both of these activities on the incomes of local populations.

Further:

The research contributed to a better understanding for USAID of the components of household income in this area of Senegal, providing comparability with other similar studies and useful information for developing measures of the impact of USAID programs.

Staff members in the Africa Bureau, which funded the research, are quite positive about the results of the peri-urban work. They indicated that the research is very useful to individual missions and has helped the Bureau to better understand employment trends in Africa. The collaboration among the three R&D/EID projects (ACCESS, FIRM and SARSA II) has been viewed very positively. It is reported that "there has been a multiplier effect in getting the three institutions working together" although a considerable investment of time has been required in getting them to come to an accord on strategies and a common research design. People in the Africa Bureau report that the resulting publications have been excellent.

The IDA Bolivia work assisted the mission in redefining some of its projects. In addition, the case study is a particularly good example of documenting how land degradation in upland areas is being reproduced as people migrate to the lowlands. Some AID staff, however, felt that IDA pursued its own research interests rather than mission priorities.

The impact of Clark PRA work has been most pronounced with local collaborators in Kenya and with NGOs, PVOs, and local organizations in Africa. Egerton University in Kenya has established a training program in PRA. Many organizations are incorporating it as a part of their development activities.

VPI reports that some of its reports have had an impact in the countries in which they were undertaken. Mission responses to the evaluation questionnaire, however, questioned the relevance and utility of several of these projects. Thus, we are unable to document much impact from VPI work.

D. GENDER/WID-RELATED RESEARCH AND TECHNICAL ASSISTANCE

Quantity: The outputs of the three institutions can be divided in three categories: Gender-Focused (i.e. where gender is the main theme of the effort), Gender-Inclusive (i.e. where gender is included as an important component) and Gender-Absent (i.e. where gender considerations do not enter into the analysis). Approximately 20 percent of the outputs use a Gender-Focused conceptual framework. Another 30 percent of the work is Gender-Inclusive, to a highly variable extent. About half of the research outputs are Gender-Absent. There

have been no requests from missions or regional bureaus for Gender-Focused technical assistance. Most of these requests have been Gender-Inclusive and Gender-Absent.

The Gender-Focused work includes the ECOGEN materials produced by two senior researchers at Clark University, one at VPI, several graduate students at the Master's and Ph.D. level and professional colleagues in other countries. A limited portion of the IDA research is Gender-Focused. The ECOGEN materials consist of detailed case studies, training materials based on several of the case studies, a conceptual framework, a methods handbook and guidelines for universities to use in incorporating WID. The Gender-Focused IDA issue papers (one per topic) derive from broader research on migration in Bolivia, river basin studies in Senegal and water user associations in Tunisia. Recently, IDA has initiated a new piece of gender-focused political ecology research in Bolivia.

The Gender-Inclusive papers include several types of outputs. For Clark University, gender-related issues are occasionally included in some of the summaries of PRA field activities. IDA's contribution in this category include some of the interim and final reports on research. For VPI, the peri-urban special studies include a limited discussion of gender as a variable.

The outputs for the Gender-Absent work vary. IDA's topical syntheses generally do not address gender nor do several of their more technical reports (e.g. hydrology in Senegal). Clark's GIS work does not address gender nor does it include other community or household variables. Apart from its peri-urban studies that are Gender-Inclusive, VPI's special studies do not include gender in research design, planning, analyses or reports.

There is no striking difference in the distribution of gender-related work across the two themes (efficient and equitable economic markets and sustainable natural resource systems) or across the geographic regions. It should be noted that ECOGEN researchers have made a particular effort to select sites in Africa, Latin America/Caribbean and Asia for gender-focused case studies. To date, there has been no SARSA II activity in Eastern Europe or the Newly Independent States (NIS).

The relative contribution of each cooperator to gender-related work varies. Apart from one of the ECOGEN case studies (in draft) and the Gender-Inclusive peri-urban work, most of VPI's limited output is Gender-Absent. IDA has contributed the majority of outputs from SARSA II and most of their output considers gender as part of a broader social analysis. Clark has taken the lead on the ECOGEN case studies and other Gender-Focused outputs. However, their outputs in GIS neglect gender (and other social variables) and the PRA work only gives scant attention to gender.

Quality: With respect to gender and WID analyses, opinions on research quality vary significantly by audience and are closely tied to other issues related to the relevance and impact of the research. Outputs are expected to be "cutting edge" in an academic sense but still be relevant and useful to other audiences composed of AID project managers in the field

and in Washington, host country policy makers and to others (e.g. NGO project staff, other donors, etc.). From an academic standpoint, most of the Gender-Focused and Gender-Inclusive SARSA II outputs are not explicitly situated within relevant theoretical literature and the authors often neglect to reference other empirical works that are related to the country or region in question. For AID project managers, a lengthy discussion of relevant theory and empirical work is not necessarily appropriate, given their time constraints. However, AID staff, other donors, NGO people and host country policy makers are looking for answers to the "so what" questions implied by the research. For these individuals, high quality work is produced in an academically rigorous manner and is also very specific in its identification of "levers" (e.g. institutional, social, etc.) appropriate for different outside actors including AID, other major donors, NGOs and/or policy makers.

The ECOGEN Gender-Focused work is the product of successful intellectual collaboration among four senior female researchers at VPI and Clark University. The disciplines represented include Political Science, Sociology, Geography and Adult Education. While each of these researchers pursues other unrelated areas of research inquiry, all overlap in their interest in the intersection of gender analysis at the household and community level, community organizations for development, and natural resource management. These topics converge in the field of feminist political ecology and are discussed in detail in a July, 1993 conceptual paper by Thomas-Slayter and Rocheleau (in draft).

The five case studies produced to date have been conducted by some combination of a senior researcher working with graduate students and/or host country professional colleagues (both academics and non-academics). The studies tend to have substantial descriptive detail but little theory and few policy prescriptions. Some valuable empirical insights have come to light and these need to be elaborated in separate synthesis papers (e.g. the relationship between migration and gendered natural resource management). The descriptions are interesting but could benefit from greater attention to cultural and historical context. None of the five case studies are based on, or linked to AID activities in country. Accordingly, the "so what" sections of these reports are generally quite thin with respect to recommendations relevant to bilateral assistance and the on-going AID activities in-country. Three more case studies are now in draft form (including two that are linked to AID work in LAC) and more attention should be paid to these policy issues. To their credit, the senior researchers are aware of these deficiencies and have expressed a sincere commitment to improving the relevance of future work to better mesh with AID's needs.

Thus far, the case studies are somewhat useful as training materials for an audience with limited understanding of the role of women in managing natural resources at the household and community levels. According to the R&D/WID officer who co-funds the ECOGEN activity, the materials have always been intended for training. In addition, the WID guidelines for Universities (ECOGEN) are perceived as being on-target and thorough. The just-published "Tools of Gender Analysis" booklet is a good summary of the methods employed in the case studies and will be useful for training. However, it would also benefit from more general discussion of the limitations of each individual method and short-term

data collection methods, as well as the significance of cultural issues in data collection. In addition, recommendations as to appropriate combinations of techniques to be used for specific activities related to the project cycle (planning, monitoring and evaluation) would be very useful to AID. While useful at the local level of analysis (households and a community), the materials offer little insight as to data collection related to the linkages of the micro-, meta- and macro-levels (e.g. regional, national, bilateral and international issues).

IDA had several Gender-Focused outputs (Bolivia, Somalia, Senegal and Tunisia) which were derived from research and/or technical assistance which was designed to be Gender-Inclusive. Accordingly, the gender-related conceptual framework is not in evidence and the work makes only a limited contribution to advances in gender-related theory. In general, the IDA work could be strengthened by the incorporation of more recent theoretical and empirical contributions in intra- and inter-household analysis. At the local level, women are often mistakenly assumed to be a class with similar rights and responsibilities. Future work could benefit from deeper analysis of both gender and class dimensions. In general, as with most of IDA's research outputs, the "so what" questions are more satisfactorily answered, particularly from AID's perspective.

Unlike much of the Gender-Absent and Gender-Inclusive work, IDA researchers generally think through the gender implications of their policy recommendations. For example, in the context of an advocacy presentation for revised flooding policies, the Senegal piece simply points out several ways in which women's work will be affected by the policy in question. Generational issues are lumped in with gender issues and all are cast as "victims" of short-sighted policy. The Gender-Focused Somali piece is a regional study of milk markets and the impact of food aid. It is part of a larger study on livestock commodity markets. Women dominate the milk trade and the article links their activity to other empirical work and theory on women's involvement in commodity markets. The Tunisia project follows other IDA work in Tunisia on Water User Associations and looks specifically at the involvement of women and poor households in these groups. Other site-specific literature is discussed but links to gender-related theory are absent.

The Gender-Inclusive work is much more of a mixed bag in terms of quality and relevance. Gender-related theory is absent and the gender-related implications of the finding are either absent or cursory at best. In most instances, the work would be enriched by greater attention to gender dimensions in the planning, data collection, analysis and writing stages of the research. The same can be said of most of the Gender-Absent outputs, in particular the theoretical syntheses.

Most of IDA's work falls in the Gender-Inclusive category. At the planning and collection stages of the research, the work is generally gender-disaggregated. However, in many of their reports, gender is only mentioned in a paragraph or page. IDA's analyses tend to be somewhat limited in terms of intra-household and sometimes inter-household issues.

Four of VPI's "special projects" address gender in a very limited manner. The research design targets household heads (75 percent male) and the male is used as the sole informant for the economic activities of the household. In the analysis of the data, household labor is disaggregated by gender. The reports do not include any theory related to gender nor do they provide answers to the "so what" questions, in general or for women. None of the research was tied to technical assistance nor was it supported by mission or regional bureau add-ons.

Only one output under SARSA II directly addresses WID issues - the university guidelines. However, the WID dimensions of research are relevant at all stages of the research cycle. All of the key researchers (at Clark University and VPI) in the ECOGEN work have been women, as have most of their local collaborators and research assistants. The limited number of Gender-Focused outputs from IDA have been authored (one each) by the three male senior researchers and one female senior researcher. IDA has made an effort, with mixed success, in the field to work with female research assistants. Their efforts to work with female academic and professional colleagues have been quite successful.

Peer review for the gender-related work could be augmented. The ECOGEN case studies have been reviewed by regional/country experts, senior researchers at both Clark and VPI and AID's R&D/WID officer. In turn, the WID officer at AID circulates the draft reports to researchers and sometimes the missions. The case studies have not yet been submitted for publication in peer-reviewed journals but have been presented at professional meetings. One or two of the case studies are slated to be published in an edited book and Slayter-Thomas and Rocheleau have a book in-progress on feminist political ecology. Two IDA Gender-Focused articles (Somalia and Senegal) will be chapters in two edited volumes that are in-press.

Relevance: Gender- and WID-related issues, particularly those pertaining to natural resource management and community organizations, are of continuing relevance to AID's needs and to SARSA's analytical agenda. The R&D/WID officer funding the ECOGEN activity ranks it in the top one-third, in terms of quality and relevance, of the 15 projects that she funds. At present, AID's only other means of accessing gender/WID expertise is via two other projects. The GENESYS contract offers training and project-tied technical assistance to missions and the R&D/EID DESFIL project can provide technical assistance, including research. AID-relevant expertise in these topics exists at other universities and with a few NGOs. However, the expertise is generally with one or two individuals at these institutions or organizations and no single institution/organization offers sufficient depth, in terms of disciplines and/or research capacity, on these topics. The cross-disciplinary combination of interests in gender, community and natural resource management found in the ECOGEN work is not common and AID should continue to develop this capacity.

To date, SARSA researchers have not always adequately demonstrated the broader geographical and gender-related theoretical applications of the site-specific Gender-Focused and Gender-Inclusive work. Almost all of the work has this potential and in some instances,

syntheses are planned that will highlight these applications. For example, the sites for the five ECOGEN case studies in Kenya (one is in-press) were chosen with criteria that included their potential for generality to other similar regions/situations in Africa. They were well-received in recent training for the AID/SADC NRMP training in Southern Africa. In addition to the theoretical synthesis being planned, it is recommended that the conclusions and executive summary of each study include a discussion of the broader geographical and theoretical applications of the work. IDA's Gender-Focused work varies in the degree to which it demonstrates broader geographical and theoretical applications. Little's Somali piece does both whereas the Horowitz and Salem-Murdock piece does neither. In general, the pattern of the Gender-Inclusive work follows the latter model.

There has been no attempt within SARSA II to have a coherent gender-related research program in any region which incorporates all three cooperating institutions. As described above, gender-related work is done by the ECOGEN team (Clark and VPI), Clark alone (PRA), IDA alone or VPI alone. ECOGEN is unique and should be commended for conducting activities in three regions: Africa, LAC and Asia. With multiple case studies in each region, the investigators are trying to achieve coherence and empirical work suitable for later synthesis. Kenya was the only country in which the same site was used for both PRA and ECOGEN studies. Regrettably, the ECOGEN work has been linked to USAID programs in only one country (Honduras).

Only IDA has had a high degree of success at garnering USAID and regional bureau add-ons and OYB transfers which lead to gender-related research outputs. Clark has received limited funds to conduct PRA work at several sites but this work has not contributed much to the gender-related findings of SARSA II. ECOGEN has made efforts to generate financial transfers from the missions and regional bureaus but has not succeeded in securing their funds.

All of the institutions are doing academically relevant work but they vary as to the extent to which they are initiating and participating in relevant gender-related research for AID. IDA does not tend to initiate or propose research to AID which uses a Gender-Focused conceptual framework but if funds are made available, gender-related analysis is conducted and reported. Clark's ECOGEN work could be highly relevant to AID but regrettably, their project-related case studies are mostly on non-AID activities and they do not always show the relevance of their case studies to AID's programs; the same can be said of VPI's one case study (Philippines). Clark's PRA work is currently being revised to be more gender-inclusive. In general, the PRA studies also need to be more closely tied and relevant to the needs of a bilateral donor such as AID. VPI's special studies have also not been linked with AID's program. They do not initiate or propose Gender-Focused work and little attention is paid to the gender dimensions of their topics.

Impact: At this juncture, it is not easy to point to specific impacts on AID's programmatic and policy decision-making from the gender-related research and technical assistance of the SARSA II project. It should be noted that any impact on programming and policy decision-

making will have gender implications. Some of the SARSA work makes these implications explicit; in others, the gender implications are ignored. The contribution of the ECOGEN work to AID programmatic and policy decisions is not yet evident. The work has contributed to interest in gender-related issues via use of the case studies for training in several Missions (e.g. A.I.D./SADC - Zimbabwe, Nepal, proposed training in Philippines). IDA research and technical assistance appears to have influenced some mission and regional bureau programming decisions in several instances (e.g. Senegal and Tunisia). As described above, the research was almost always focused on other topics and the gender implications of programmatic/policy decisions were usually made explicit. The Tunisia study of women and water user associations is one of the only studies that targeted USAID mission policy and programming with respect to women but there are no indications that the recommendations were implemented. Most of Clark's PRA work and all of VPI's special studies have had no tangible impact on AID programmatic and policy decision-making. The recent PRA work in the Gambia and Madagascar seems likely to affect mission programming in a manner that has gender implications but these have not been made explicit.

The direct impact of SARSA II gender-related research and technical assistance on the R&D Bureau is not yet evident. There has been professional cooperation between the ECOGEN researchers and the gender/WID specialist for the DESFIL project. ECOGEN research has been presented in Washington, D.C. at a meeting of DESFIL's Gender and Natural Resources Network. In one instance, an ECOGEN researcher from VPI conducted training for the R&D/AG Sustainable Agriculture and Natural Resource Management CRSP planning team in Mindanao and served as the team's gender specialist. In addition, according to at least one AID official, IDA played a pivotal role in the overall design of the DESFIL project.

With respect to the impact of gender-related SARSA II research/T.A. on host country policies, legislation and programs, the effect is generally not evident at this point. As described above, the ECOGEN work is at a relatively early stage and still weak in its treatment of policy issues. Although IDA topical research appears to have had some influence in some instances on host country policies, gender-related policy impacts were likely to have been incidental rather than central to their policy-related concerns and influence. There is no evidence that either Clark's PRA work or VPI's special studies have had any influence on host country policies and legislation.

SARSA II gender-related research and technical assistance has had a very positive influence on host country institutions and researchers. In particular, IDA, Clark and the VPI ECOGEN research in the Philippines have made particular efforts to work closely with host country institutions. IDA and Clark have collaborated with female researchers and used female research assistants whenever possible. ECOGEN research has been conducted almost entirely by women. Host country researchers and assistants have been involved in all steps of the research process. To date, there has been no follow-up with those host country individuals involved in SARSA II gender-related research to see whether or not they have continued to conduct either Gender-Focused or Gender-Inclusive research. However, in the

Dominican Republic, the male researcher involved in the ECOGEN case study is participating in the subsequent CARDI project re-design to make activities more Gender-Inclusive.

With respect to impact of SARSA II's gender-related research and technical assistance on local communities, one can point to Clark's PRA participatory work with communities to produce community action plans. In addition, many of ECOGEN's research tools are participatory and have the potential to lead to a similar product. However, in some instances, both the participatory process and the community action plan may have inadvertently given community members the impression that further outside assistance would be arranged or provided by the researchers. All three institutions generally hire local research assistants and in Senegal, IDA's research assistants have even formed their own consulting firm.

In terms of influence on the academic community and the state of knowledge, SARSA II's Gender-Focused research has great potential to affect the fields of rural-urban issues and sustainable resource management. However, these impacts are not yet in evidence. ECOGEN, in particular, seems likely to make an important contribution in the emergent field of feminist political ecology but work is still at an early stage. IDA's work in political ecology has already contributed valuable insights to work on sustainable natural resource management but greater attention to gender dimensions would further enhance their contribution to the field. IDA's peri-urban work in Somalia's dairy markets adds to a growing body of literature on the economic strategies of women in peri-urban areas. Apart from the Philippines ECOGEN study (Agbanga), the impact of VPI's Gender-Inclusive work on the fields of rural-urban issues and sustainable natural resource management is not evident.

The final impact issue relates to the contribution of outputs to the project's overall goal and purpose. Given the findings of gender-related research, it seems highly unlikely that the project's goal ("increased income within rural regions") and purpose ("to generate and apply knowledge of regional production and resource management systems, in order to enhance AID, other donor, and host country knowledge and ability to plan and implement projects, programs and policies resulting broad-based, sustainable income growth") will be achieved by research and technical assistance in which gender is absent. While it may be possible to argue that gender-related analysis does not "fit" in some types of technical reports, very little of SARSA's output falls in this category (e.g. hydrology and some GIS reports). Although nearly 50 percent of SARSA's output falls in the Gender-Absent category, most of the research design, collection and analysis could easily have been made Gender-Inclusive. The inclusion of gender dimensions should not always require the infusion of extra funds from the R&D/WID monies.

In the case of ECOGEN, the matching WID funds are somewhat more justified because they make Gender-Focused research possible and contribute to knowledge in a newly emergent field (feminist political ecology). This field was not well-developed at the time of

SARSA II's project design. However, given that IDA has been working on political ecology since SARSA I, one would hope for greater collaboration between IDA and ECOGEN in the remaining time under SARSA II.

E. SYNTHESIS AND DISSEMINATION

It is important to note that some of the work begun under SARSA I is continuing to result in syntheses published during the period of SARSA II. IDA's work on contract farming, for example, has been combined with cases studied by other researchers into an edited collection that is now in press at the University of Wisconsin Press. Peter Little is one of the editors of Living Under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa and has contributed to an overview essay that discusses the overall findings and implications of the work. The publication of the book illustrates several important aspects of IDA's work as part of SARSA II. First, a bibliography on contract farming was produced as a working paper to assist in the contextualization of the work (see IDA publication #WP62). Second, IDA identifies researchers who are working on similar issues and incorporates their results as part of the case studies used in its synthesis work. Third, the results are submitted to reputable academic presses where they are peer-reviewed just as with any other piece of research. The success of IDA in publishing in peer-reviewed presses demonstrates that its applied research is also academically sound.

Another similar effort is occurring that stems from the work on labor dynamics and land degradation in Bolivia. Painter is co-editing a book on The Social Causes of Environmental Destruction in Latin America that will be published by the University of Michigan Press. Painter's introduction on anthropological perspectives on environmental destruction is a very useful review of how people socially construct their use and abuse of the environment. IDA is also planning a synthesis report on its long-term work in Senegal.

For most of the SARSA II activities, synthesis is still at an early stage. What is most notable about the synthesis reports produced so far is that a) they have been limited to synthesizing the work of one cooperating institution, and b) they have synthesized work within one country or have dealt with work in Africa or Latin America. Syntheses have not tended to cross-cut institutions or geographic regions.

Another notable aspect of the synthesis activities is that Clark has largely organized its efforts in terms of training manuals. IDA has worked with substantive themes. IDA did develop a manual on methodologies for survey research, following up on its work in Burundi and other African countries. The audience for this, however, seems unclear and our assessment is that this manual does not have great utility. IDA should, however, consider doing a training manual based on its research experiences. Collaboration with PRA and ECOGEN researchers may also enhance this manual.

There are several important issues that deserve greater consideration in terms of synthesis reports. One of these has to do with regional analysis. As indicated earlier, the

concept of the region can be employed in many different ways. SARSA II has not used the regional idea to bring these different meanings into a coherent framework. A methodology should be devised to bring together the formal spatial analysis of GIS and the place-specific local knowledge of PRA because they are both complementary to regional analysis. Moving from the micro to the macro is not a scale-neutral exercise; in moving to higher levels of regional aggregation, care should be taken not to lose the local-rootedness dimension of place-specific knowledge. During the last year of SARSA II, some resources should be devoted to questions of culture and region as a potential theme of SARSA synthesis; given IDA's groundwork in political ecology, the notion of region as social construction may provide a rewarding line of reasoning.

Another potentially productive area would be to devote more thought to developing a multi-disciplinary social theory of the sustainable development of natural resources drawing together all elements of the nexus of resource relations. IDA's synthesis work in this area emphasizes that environmental degradation is frequently due to the competition among people for access to productive resources. As pointed out earlier, however, a political ecology that focuses on social and political relations alone does not provide an adequate synthesis of resource issues if it leaves out other important aspects of the nexus - technical, cultural and ecological relations.

It is appropriate that ECOGEN researchers are now drafting a new conceptual synthesis and are also working on a book on feminist political ecology. The case studies still need to be synthesized by themes and geographic areas. Synthesis is particularly critical for the ECOGEN work so that it does not become just a "loosely connected collection of case studies."

Given AID's concern with impact and relevance, all three cooperators should pay greater attention to the gender-related implications when making policy and programmatic recommendations in their syntheses. Because the three institutions have not had a track record of working together on gender-related research, it seems unlikely that together they will produce one large synthesis piece on SARSA II gender-related research. With the ECOGEN work, it is recommended that the researchers produce a short policy/program relevant synthesis piece, a geographic synthesis that includes different regions, and several topical syntheses. These topical syntheses could include work on the gender implications of migration, the gender division of knowledge and labor concerning NRM, etc. IDA's gender-related findings should also be addressed in their synthesis documents.

Research impact is often highly dependent on the dissemination form of the research output. For AID's purposes, mission, regional and R&D bureau officers repeatedly stated that the most widely read outputs tend to be short (20 pages or less), answer the "so what" programmatic and policy questions in a direct and concise manner and have crisp executive summaries. Other audiences, such as academics, may prefer longer and more detailed reports.

In terms of dissemination, Clark, IDA and VPI all have an internally published series within which SARSA II reports are published. Both Clark and IDA have also established very successful programs for disseminating their research and training materials.

Clark's dissemination of IDRISI is exemplary. Apart from IDRISI's own distribution network and materials, AFR/ARTS/FARA commissioned SARSA II to write a GIS manual to be used by individuals who make decisions about purchasing GIS systems. Dan Dworkin of AID/AFR has played a very active role in the dissemination of IDRISI to the mission offices.

Clark has also done a very effective job of disseminating PRA materials. Over 8,000 copies of the Participatory Rural Appraisal Handbook, a joint venture with the Government of Kenya, the Egerton University and the World Resources Institute, are now in circulation and it has been translated into French. The Introduction to PRA exists in KiSwahili, French, Spanish, Setswana and Somali versions and 4,000 copies of the English version have been printed. . Apart from these manuals, the main vehicle for both PRA and ECOGEN dissemination is desktop publishing quality reports of their case studies.

IDA has done a very effective job of publishing results of its work in peer-reviewed journals and books. IDA researchers have also been instrumental in editing books that serve as syntheses of work. Examples include the books on contract farming and on environmental degradation mentioned earlier. Over the years, the bi-annual Bulletin of the IDA has carried a special section that reports on SARSA II research. This keeps the project visible among a large number of social science professionals. IDA is also involved in the production of videos concerning its work in Senegal and in Tunisia. This is an innovative effort to reach a larger audience.

Within AID, dissemination appears to be somewhat less successful. Several missions had not yet received reports for research conducted in country. In addition, there are social scientists within AID who are quite interested in reports on IDA research and other SARSA II research but who reportedly do not receive them regularly.

There are multiple channels for the dissemination of SARSA II's gender/WID-related outputs. Each institution publishes its own reports and has an internal and external mailing list. The ECOGEN materials are published at Clark. The R&D/WID office distributes them regularly to the WID and Environment officers at all USAID missions. Requests come from the donor, NGO and academic communities and are generated by: 1) an R&D/WID publications list that is sent periodically to a worldwide list of PVOs, NGOs, universities and individuals (approx. 1500 entries), 2) the distribution of ECOGEN materials at numerous WID/gender training workshops, conferences and meetings held worldwide, 3) announcements in several newsletters including the Gender and Natural Resources Network (approx. 200 members). The WID guidelines have also been widely distributed in U.S. universities. Requests for publications are answered by Clark, VPI, R&D/WID and AID's

Document Center. The R&D/WID officer reports that dissemination within AID has been fairly cost-effective but this is difficult to assess for distribution outside of AID.

Approximately 200 copies were printed of each ECOGEN case study and nearly all have been distributed. They have been used in classes at the University of Illinois, the University of Colorado and Iowa State University among others. For AID purposes, the ECOGEN case studies are perceived as too long and overly detailed for use by those working on policy and programs. A shorter length, tighter executive summaries, more professional graphics, and policy and program conclusions relevant to AID's capacities as a bilateral donor are recommended.

F. OVERALL CONTRIBUTION TO KNOWLEDGE

The broad themes of investigating 1) integration of rural regions into more efficient and equitable economic markets and 2) the role in regional economies of sustainable natural resource systems are quite broad and have allowed SARSA II to evolve along with changes in AID interests. IDA has been responsive to AID mission and bureau interests and has generated the largest amount of add-ons (see Tables 2 and 3).⁴ IDA's projects, however, have been quite disparate. While some have been comparative in several countries (e.g. peri-urban) and thus subjects for synthesis documents, others (e.g. Tunisia water user associations) are cases that are "stand-alone" projects. The Senegal effort fits within a long-standing IDA interest in river basin development (some of which was supported by SARSA I) and synthesis documents continue to be produced on this theme.

In general, the IDA work has been quite strong on demonstrating the historical and sociocultural dimensions of development, particularly as they affect natural resources. Its work is responsive to the needs of AID missions and bureaus, and has achieved substantial success in the academic literature. In future work, IDA should make greater use of its household level data, particularly by linking it with economic models of households, and pay greater attention to formally demonstrating the linkages of the micro-level with the macro-level.

Clark's strategy has been to put its efforts into the advancement and publicizing of methodologies that can be of service in the development community. The publications and reports on GIS, PRA and ECOGEN indicate the emphasis on methodologies. Reflecting this emphasis, many of the Clark add-ons have been for training activities that are much-appreciated in developing countries. Clark's development of the IDRISI GIS system has been phenomenally successful but the institution does not seem to have the staff capability of applying GIS to development problems. PRA has generated substantial interest as a means for identifying problems and potential solutions at the local level. ECOGEN has a shorter

⁴ This is especially the case if Clark's pending project (with a very substantial sub-contract to the University of Arizona) for Malawi is removed from Table 3a.

history but has developed a set of case studies that are useful for training purposes. SARSA II should encourage Clark to tie these methodologies to AID projects to demonstrate their utility and effectiveness in generating policy-relevant conclusions and recommendations. Thus far, this has been a weakness of the Clark program.

VPI's work has thus far remained in ECOGEN, the IPM studies and the "special projects." These have generally not been tied to AID projects or interests. Thus, their utility has been quite limited.

G. CONCLUSIONS AND RECOMMENDATIONS FOR RESEARCH AND TECHNICAL ASSISTANCE

The conclusions and recommendations provided here are meant to serve as means by which the remaining field research and synthesis work of SARSA II can be improved.

1. More than anything else, the principal investigators in SARSA II need to have more opportunities for interaction and developing more inter-institutional projects. Most of the projects are free-standing efforts of one principal investigator, rather than part of an integrated SARSA II research program. Theoretical, methodological, and empirical advances are constrained by the lack of contacts among the investigators.
2. Greater attention should be paid to the complementarity of geographic and anthropological research. The potential of the disciplinary synthesis has yet to be explored because of the isolation of the projects from one another.
3. SARSA II often seems to lack an intellectual or substantive core. The strength of this is that the project often can or will respond to the needs of AID missions or bureaus, even in cases where its expertise is marginal (such as in the work it undertook on Integrated Pest Management). The drawback is that syntheses of the results and importance of SARSA II are difficult to achieve.
4. The work has thus far been confined primarily to Africa, Latin America and the Near East (only Tunisia), with a few ECOGEN activities in Asia. The work in different geographic regions is too often done in isolation and is very site-specific. Greater efforts need to be made to derive syntheses and generalizations that are applicable within and perhaps across geographic regions.
5. Most of the analyses of household data in SARSA II have been confined to descriptive statistics or cross-tabulation. Greater use could be made of these potentially rich data sets for further elucidating intra- and inter-household dynamics.
6. PRA needs to be more closely tied to existing AID project cycles so that its utility can be better tested. In addition, PRA researchers need to help communities with action plans to access resources that address their needs. While PRA is strongest on establishing ecological

and cultural relations of resources at the local level, it could benefit from incorporation of historical, social and political relations of competition and collaboration as emphasized in IDA's work on political ecology.

7. Gender has not been considered a significant variable in much of the SARSA II research. Efforts should be made to insure that reports and syntheses of SARSA II field activities are all gender-inclusive and that additional documents are gender-focussed. IDA analyses of household surveys and PRA activities are areas in which added attention to gender is warranted.⁵ Synthesis is particularly critical for ECOGEN work so that it does not just constitute a "loosely connected collection of case studies."

8. IDA has recently received an add-on from the WID office to consider gender in the analysis of household surveys from Bolivia. Unfortunately this work has not been linked with the ECOGEN work. Greater collaboration of IDA with ECOGEN researchers at VPI and Clark is strongly recommended.

9. For all of the projects, greater attention must be paid to the policy implications of the research. A common format for reports ought to be adopted that includes an executive summary and a section on policy implications. IDA's reports are best in this regard while the ECOGEN work has been the most descriptive and generally lack an in-depth policy discussion. To better communicate results and policy recommendations, SARSA II should consider disseminating policy briefs (perhaps emulating those of the International Food Policy Research Institute). These brief summaries of each project should include a tear-out sheet that would allow the reader to order the full report. Sufficient core funds must be made available to widely disseminate these policy briefs.

10. The development of GIS has been a strength of the project. Thus far, however, SARSA II has not made use of IDRISI for project planning, monitoring, or evaluation purposes. Clark's expertise in the development of the software has not been applied by other SARSA II researchers to natural resource management or regional planning problems. The recent add-on for work in Malawi may change this situation. In addition, Clark and AID should develop a strategy for undertaking a more comprehensive approach to both GIS and spatial analysis.

⁵ Investigators in both of these areas expressed their intention to include greater attention to gender questions. Their future efforts should be monitored by the AID project manager and the R&D/WID office.

IV. BASIC FINDINGS -- INSTITUTIONAL AND MANAGEMENT CONSIDERATIONS

A. STRENGTHS AND WEAKNESSES OF CURRENT RELATIONSHIPS AMONG THE THREE INSTITUTIONS

Managerial: Representatives of the cooperators meet once a year to review an annual workplan that consists of: 1) a reiteration of the major objectives and goals of SARSA; 2) a review of the past year's work in the light of SARSA objectives; 3) a discussion of the program for the coming year; and 4) budget allocations for activities. Although there are supposed to be frequent steering committee meetings, there are few institutional contacts at a managerial level. At the present time, accounting and financial aspects of SARSA between Clark and IDA are quite sound. However, according to VPI officials, SARSA core funds are not received by them until at least six to eight months after the allotment period. Quantitatively, this may be no longer an issue because VPI's share of SARSA core funds has dropped from more than a third in 1989 to less than 9 percent in 1993.

Research projects using core funds: The following table shows the budget allocation for research activities extracted from the 1993 annual workplan. The figures are cited as an example of a numerical measure of institutional collaboration; the pattern is similar to those of previous years.

PROGRAM ACTIVITIES	CLARK U.		IDA		VPI		TOTAL	
	Dollars	(%)	Dollars	(%)	Dollars	(%)	Dollars	(%)
N.R.M.	25,000	(21)	75,000	(68)	0	(0)	100,000	(40)
G.I.S.	25,000	(21)	0	(0)	0	(0)	25,000	(10)
Gender/WID	50,000	(42)	10,000	(9)	20,000	(100)	80,000	(32)
PRA	10,000	(8)	0	(0)	0	(0)	10,000	(4)
Peri-urban	0	(0)	15,000	(14)	0	(0)	15,000	(6)
Synthesis	10,000	(8)	10,000	(9)	0	(0)	20,000	(8)
TOTALS	120,000	(100)	110,000	(100)	20,000	(100)	250,000	(100)

* In addition to this sum, there was \$270,000 allocated by R&D/EID for institutional support for the three cooperating institutions. Data is from the 1993 Work Plan.

The research activities undertaken during this year show very little institutional collaboration either in intellectual conceptualization or project implementation. Of the total budget, 40 percent was spent on resource management themes by Clark and IDA but there were no shared activities between them. Work on GIS and PRA was done entirely at Clark, representing 10 percent and 4 percent, respectively, of the core research budget. The SARSA component of the peri-urban project representing 6 percent of the core budget was

done at IDA. Gender studies came to 32 percent of the total core resources and involved all three institutions. As noted earlier, however, IDA work occurred in isolation from the ECOGEN activities at VPI and Clark. The only collaborative component of the research program was ECOGEN work at Clark and VPI. Even here, however, although similar methodologies were used by Clark and VPI ECOGEN researchers, not all projects involved institutional collaboration. Of the ten ECOGEN case studies only two (Leyte, Philippines and Choluteca, Honduras) represented joint research. The collaborative component of ECOGEN work may have amounted to about \$20,000 or 8 percent of the total SARSA II core budget for the year. According to the figures for 1993, over 90 percent of research conducted under core funds did not involve collaborative activity among the three institutions.

The successful collaboration between Clark and VPI was entirely due to good personal relationships among the principal investigators. It is especially unfortunate that the IDA work on Bolivia does not use or comment on ECOGEN methodology. The PRA paper on scaling-up represents an effort to link GIS and PRA but more core funds need to be spent on a collaborative effort to pursue the more general topic of integrating research done at different geographic scales (see section III.A and III.B).

SARSA project add-ons (non-core funds): Table 2 contains a break down of SARSA II projects that have been completed. It is provided to demonstrate the degree of institutional collaboration.

TABLE 2: SARSA II COMPLETED ADD-ON ACTIVITIES (as of July 1993).

<u>Clark University</u>	<u>Dollars</u>	<u>Percent</u>
1. PRA, Kenya	23,540	5.4
2. GIS planning	2,102	.4
3. GIS Sahel	137,500	31.3
4. GIS India	224,658	51.1
5. GIS Haiti	11,056	2.5
6. GIS Botswana	22,451	5.1
7. GIS Uganda	17,980	4.0
Total	438,980	100.0
<u>IDA</u>		
1. Contract farming	9,000	1.1
2. Tunisia synthesis	8,000	1.0
3. Tunisia water	59,835	7.9
4. Tunisia WID	15,000	1.9
5. Bolivia	166,000	21.9
6. Malawi	300,000	39.6
7. Peri-urban	199,324	26.3
Total	757,159	100.0

TABLE 3: SARSA II ON-GOING ADD-ON ACTIVITIES (as of July 1993).

<u>Clark University</u>	<u>Dollars</u>	<u>Percent</u>
1. PRA, Kenya	313,000	12.2
2. GIS	411,515	16.0
3. IPM (w/VPI&IDA)	326,000	12.7
4. ECOGEN (w/VPI)	582,548	22.7
5. Gambia & Malawi (w/U of Arizona)	976,214	36.4

Total	2,569,272	100.0
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<u>IDA</u>		
1. Peri-urban	575,078	28.3
2. Tunisia water	238,000	11.7
3. Tunisia WID	45,000	2.2
4. Senegal	1,077,600	53.1
5. Gambia	95,000	4.6

Total	2,030,678	100.0
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Data for both of these tables was provided by the Project Director at Clark University. It appears to include both OYB transfers and BOA funds.

Of the completed SARSA project add-ons in which Clark was the leading institution 95 percent of the money was spent on GIS which involved no collaboration with either of the other institutions in the CA. The other 5 percent was spent on PRA activity conducted exclusively by the Program on International Development (ID) at Clark (see Table 2). Of the completed add-ons in which IDA was the leading institution, none of the projects involved researchers from Clark or VPI.

Table 3 contains the information on the projects that have not yet been completed. Of the on-going projects at Clark, 28 percent of a total sum of \$2,569,272 was spent on PRA and GIS involving no researchers from the other cooperating institutions (Table 3a). Thirty-five percent of add-on money was spent on ECOGEN and an integrated pest management (IPM) project that also involved researchers from IDA and VPI. The largest proportion of funds (representing 36.4 percent) will be spent on projects in Gambia and Malawi. This latter project has a very large GIS component but most of the work is being contracted out to University of Arizona. It is not immediately apparent as to why Clark is unable to provide more of the GIS component for the Malawi project in view of the fact that a major objective of SARSA was the building of institutional capacity of the cooperators to meet the needs of the Agency. Clark's inability to provide GIS services to the Agency is puzzling because over the last few years, the largest single research and service component of SARSA at Clark has been GIS. A specific recommendation of the SARSA I mid-term evaluation was that SARSA should, when at all possible, use professionals from the staffs from the co-operating institutions and any departure from that should be done with the written approval of AID's SARSA project officer. In fact, the Department of Geography at VPI has a Spatial Analysis Lab which according to their information has facilities for, "... specialized systems for GIS,

cartography and remote sensing." The capabilities of this facility were not explored by Clark for purposes of the Malawi work.

The total value of the on-going add-ons contracted by IDA amounts to \$2,030,678 (Table 3). Of this over 53 percent of the money involved work for the Mission in Senegal with no collaboration among the principal cooperators. Lack of participation by other cooperators is also true of other on-going activities at IDA.

Dissemination issues related to institutional relationships: There are no regular meetings of the cooperators to discuss conceptual issues and there is no SARSA newsletter. The IDA newsletter carries information on SARSA II activity conducted by IDA, but there is no equivalent publication from Clark. At the level of field missions, SARSA II activities were often identified with individual elements such as ECOGEN, PRA or IDRISI. There is no information being circulated on a regular basis that conveys the meaning and significance of the overall SARSA concept or approach. The SARSA II project paper contained a proposal for VPI to create and maintain an electronic bulletin board for SARSA activities, publications, and news, but the activity did not materialize.

The SARSA I mid-term evaluation reported the following finding:

... what the evaluators have perceived is essentially two separate resource complexes at Clark University and IDA respectively, rather than a major resource base encompassing and integrating geographical and anthropological perspectives (p. 30).

Unfortunately, the situation has not changed with SARSA II.

B. STRATEGIES TO BE USED IN OVERCOMING WEAKNESSES IN INSTITUTIONAL RELATIONSHIPS

The SARSA I evaluation report concluded that the principal deficiency of the project was "... the intended integration of geographic and anthropological perspectives has not materialized to the degree anticipated." The continued lack of institutional collaboration under SARSA II is one contributory factor to the continuing lack of this synthesis. While the Agency should be commended for sustaining the infrastructure that could bring about such a synthesis, the cooperators should provide a clear strategy to accomplish this objective. So far, SARSA II cooperating institutions have not done so. The problem is not simply one of the physical lack of collaboration; we saw no examples of conceptual thinking specifically designed to bring about such a synthesis. As the Senegal study showed, new insights do emerge at the interfaces of class/place and culture/region.

Among organizational strategies, we suggest the following:

(1) In addition to the annual workplan meetings, there should be more steering committee involvement in reviewing the relationship of proposed individual research projects to the conceptual goals of SARSA II.

(2) Every SARSA research report should contain an executive summary, a section containing explicit policy recommendations, and an appendix stating the relationship of the project to cross-cutting overall themes of SARSA II.

(3) A computerized data base should be operated by the project manager where each SARSA project will be indexed according a series of key words. Thus, a data base will allow both SARSA and AID/W to obtain rapid quantitative breakdown of the activities by geographical region and sector, as well as attention to economic growth, focus on gender, equity, and democratization issues and so on. The proposal to create an electronic bulletin board for SARSA II activities and literature should be revived and implemented.

C. INSTITUTIONAL & MANAGEMENT CONSIDERATIONS BETWEEN EACH COOPERATING INSTITUTION (CI) & AID'S R&D/EID OFFICE

The cooperative agreement mechanism implicitly and explicitly sets up certain expectations for both the AID project manager and for the project directors at each cooperating institution (CI). Besides managing project funds, the role of the AID project manager is to supervise project activities; offer substantive input; facilitate cooperator interactions with each other and with other AID offices; and market the project's capabilities to other AID offices. AID expects that the lead CI will provide a project director and the other CIs will provide a coordinator for research activities who are able to function in a somewhat similar manner - manage funds, supervise project activities, offer intellectual input, facilitate interaction within their own institution and among cooperating institutions and play a leadership role in marketing the project to AID offices to secure add-ons and OYB transfers to augment core funds. It is expected that there will be regular, frequent and cordial communication between the AID project manager and the CI project director and coordinators as well as among the three CIs.

Mostly due to circumstances beyond its control, the R&D/EID office has had difficulty living up to the management expectations of the cooperative agreement. Declining AID, R&D Bureau and EID office budgets have resulted in some under-funding of the core budget for SARSA II. During the duration of the SARSA II project, there have been four AID project managers. Even by AID standards, this reflects a high rate of turnover. All of AID's project managers have also had additional responsibilities managing at least one other project. The amount and quality of their substantive input has varied with their availability and also with their own field of technical expertise. The current project manager does facilitate positive inter-cooperator and cooperator-AID office relations. Regrettably, this has not always been the situation with past project managers. Marketing of project capabilities by the different R&D/EID project managers has been inconsistent and variably successful. Marketing generally requires some degree of continuity in project management, in addition to

strong personal/professional networks within AID and also a particular set of skills that has not always been possessed by project managers.

There have also been institutional and management difficulties on the part of the Cooperating Institutions and many of these issues are discussed in the sections above. Clark and IDA changed directors once during SARSA I but those individuals have provided continuity during SARSA II. In contrast, VPI has had six project directors since joining the project at the beginning of SARSA II. Clark's director takes the lead in financial management but each institution has its own procedures. All three CI project managers have been able to provide some degree of supervision for project activities but intellectual input by the project directors has been quite limited for Clark and VPI. Given the limited funds available, the SARSA project can ill-afford project managers and coordinators who are not engaged in SARSA research. While IDA's project coordinator has done an excellent job of facilitating interaction within IDA, the same cannot be said for Clark or VPI. As described above, Clark's director has not taken a leadership role in facilitating interaction among researchers at the three cooperating institutions. Each institution seems to be responsible for marketing its services to AID offices and missions. While IDA has been quite successful in this, VPI has not been successful in securing AID interest in its research efforts and thus has not generated any add-on funds.

Historically, each of the SARSA CIs has had a markedly different institutional and management relationship with the R&D/EID Office. The current EID manager is to be commended for establishing and maintaining cordial and productive relationships with all three institutions. Clark is the primary contact for the SARSA II project. Clark's project director and R&D/EID's project manager communicate two or three times a week on financial, logistical and management matters. Contact with IDA's project director is about once a week due to IDA's high level of add-on activity. In addition, IDA is also involved in the Rural Income Generation IQC for the R&D/EID office. VPI's project director communicates with the R&D/EID project manager about once every three weeks but only sporadically with the other CIs. Due to communication problems with the other CIs, the VPI project director expects the R&D/EID project manager to serve as go-between and disciplinarian with the other CIs. This "solution" is unsatisfactory for the balance of the project. A facilitated meeting with all project directors and the manager (CIs and R&D/EID) should be held in the near future to openly discuss these issues and establish more cordial and functional relationships. All three cooperators attend the annual workplan meeting in Washington, D.C.

The inter- and intra-cooperator problems overshadow whatever difficulties that have arisen between AID and each of the cooperators. The SARSA II budget does not allocate sufficient funds to cover the transaction costs necessary for productive institutional and interdisciplinary collaboration. Consistent under-funding by AID has exacerbated this situation. Sharing scarce funds equally among the cooperators contributed to, but does not fully explain VPI's inability to "learn the ropes" about how AID works and how to secure buy-ins for SARSA-relevant social science research (see below). Other difficulties among

CIs and with AID have included interpersonal problems, stylistic differences and intellectual disputes. These problems are not unexpected, given the number and type of institutions and individuals engaged in SARSA II activities.

D. INSTITUTIONAL & MANAGEMENT CONSIDERATIONS BETWEEN EACH COOPERATING INSTITUTION (CI) & AID CLIENTS (R&D/WID, REGIONAL BUREAUS, & USAID MISSIONS)

Under a cooperative agreement, only limited core funds are provided. AID expects that the CI project director and coordinators, individual researchers and the AID project manager will be able to generate substantial "client" interest in providing funds to carry out research and technical assistance which is consistent with SARSA II objectives. There are actually three types of clients: the R&D/WID Office, the regional bureaus and the USAID missions. Each CI has had a different degree of success in meeting the needs and wishes of these clients. Interviews and questionnaires suggest varying degrees of satisfaction by the clients with institutional and management relationships.

1. R&D/WID

R&D/WID provided 1:1 matching funds to SARSA core funds for different activities during the course of SARSA II. The first activities funded were the three-year ECOGEN sub-project and the IDA study on Tunisian women and the water user associations. In addition, this office has just funded a gender-focused analysis of IDA data previously collected in Bolivia. On balance, the WID project manager has been satisfied with the institutional and management relationships with SARSA CIs.

2. Regional Bureaus

All of the regional bureau OYB transfers have come from the Africa Bureau. These research activities include IDA's peri-urban work, the Malian IPM study with IDA, Clark, and VPI, the new IPM study in East Africa, and the soon-to-begin Clark GIS demonstration with the Government of Malawi. These OYB transfers have totalled approximately \$825,000 to date. The REDSO office in East Africa has also supported work in Burundi.

In general, the Africa Bureau and REDSO-East Africa office have generally been satisfied with institutional and management arrangements. There has been some concern over slow processing of financial matters in some situations. When more than one CI is involved, the client has indicated that it is necessary to also have a contact person who takes the lead on the substantive issues of the report rather than just the SARSA II project director.

Although funding comes from the regional bureau or REDSO, it is crucial to establish satisfactory management and institutional arrangements with the USAID missions and host country institutions. The USAID staff are concerned with both the subject matter of the research and also the additional management burdens placed on them when they are already

short-handed and in some instances, downsizing. One mission indicated that although their input was solicited by SARSA researchers for activities funded by the regional bureau, the final proposals and/or research outputs did not adequately tie in to their mission program or host country interests/institutions. In the words of one respondent taken from the evaluation questionnaire, the final proposal (for peri-urban research) was "unresponsive to our needs" and the activity did not go forward. In Mali, no senior researchers from SARSA CIs were involved in the IPM research and it appears that mission briefing prior to the activity was inadequate. As a result, the mission states,

The linkage of the field researchers and AID Washington and Clark University were not apparent to USAID Mali technicians...All we know about this project is that a team of researchers came to investigate opportunities for IPM in Mali. They toured the Office de Haute Vallee rural zones to make an inventory of IPM methods used by the farmers in those areas. They also interviewed Mission staff about the former IPM project, briefed the Mission about their findings and departed. We have not received their report.

Although SARSA's themes appear to be relevant elsewhere, there have only been add-ons and OYB transfers from the Africa and Near East (Tunisia) Bureaus. While this may be more related to factors specific to each AID regional bureau, SARSA II has had relatively limited geographic scope. For the Latin America/Caribbean (LAC) Bureau, funds have been significantly reduced in the last three years to support new agency activities in Eastern Europe and the NIS. Topically, the LAC Bureau focuses on trade issues in agriculture and natural resource management. With research experience in contract farming, peri-urban trade and labor issues such as migration, there is clear topical overlap between SARSA II and the LAC Bureau which should be further pursued. In addition to supporting private enterprise, the funding priorities of the Eastern Europe Bureau and the NIS Task Force (merged as of Nov. 1993 into the new Eastern Europe-NIS Bureau) have been directed toward "brown" (pollution) issues and democratic initiatives. SARSA II's record of research on the social and institutional dimensions of regional income generation and natural resource management, in addition to research on both local democratic traditions and democratic/participatory research methods would fit well with A.I.D.'s activities in these countries. Asia Bureau supports research related to SARSA II's themes but tends to rely on a small cadre of researchers at a few universities and NGOs who are accessed via purchase orders and IQCs. In addition, neither the CIs or R&D/EID's project managers have had strong personal or professional links to staff in the Asia Bureau. During SARSA I, there were add-ons in Jordan and Tunisia (Near East Bureau), but work was not continued in Jordan during SARSA II.

3. USAID Missions

There have been two types of SARSA II activities involving USAID missions. Under add-ons financed by the USAID, the capabilities of one or more CI are called upon to provide technical assistance and/or support research. In the second situation, the SARSA CI

requests permission to do work in country on research which may or may not fit with mission priorities. In the latter example, the research is not funded by the mission. However, in most situations, the mission is asked to provide varying degrees of institutional and management support to the research activity.

For add-on activity **financed by the mission**, most have been satisfied with institutional and management arrangements as well as the focus of the research. Two missions indicated dissatisfaction with the tardiness of financial billing (e.g. "final billing still not done, despite over 1.5 years from PACD" - Bolivia e-mail questionnaire). Three other mission replies were very satisfied with all institutional and management arrangements (Tunisia, Senegal, Botswana). One mission (Bolivia) perceived IDA's SARSA work to be "pure research" and felt that mission interests in economic factors and implementation problems were not adequately addressed. One suggestion for improvement was to have future research involve "good ag economists" on the research team.

For research activities conducted **without mission add-ons**, there has generally been some dissatisfaction on the part of the USAID staff with both the institutional and management demands of the SARSA-supported researchers (clearances, logistical arrangements for country visits, contractual arrangements, administration, office support). Missions are also concerned with the relevance of these research topics to USAID programs. One mission, in the process of down-sizing, passed the management responsibilities for a VPI special study and the ECOGEN activity to an institute supported by mission project funds (Dominican Republic). Clark researchers working on GIS and PRA, as well as the Clark and VPI researchers working on ECOGEN tend to be more sensitive and aware of these issues than are many of the VPI special study researchers.

Conversations held in Blacksburg with VPI researchers indicate that some of them have been: 1) unaware of the need to first research mission programs and priorities through planning documents and conversations with AID/Washington staff before contacting appropriate and sympathetic staff members at the mission (identified with the help of the AID project manager or the other collaborating institutions), 2) unaware of the need to get feedback from a potentially interested mission on research proposals and incorporate appropriate suggestions, 3) insensitive to the other management demands on USAID staff time when visiting the host country, 4) lax about offering to brief mission staff before and after the research, 5) derelict in following up the field work by sending reports to the mission and relevant host country institutions, preferably in the appropriate language, 6) unaware of the importance of consistently following up with Mission staff to pursue research of interest to the mission and the researchers and which fits with SARSA II research themes. It is important, however, to note that the Honduras mission was very satisfied with the way that the ECOGEN activity was conducted.

The problems described above appear to originate, in part, from how VPI has handled its incorporation into the SARSA cooperative agreement. The institution has treated SARSA II as though it were a vehicle to sell any topic of VPI academic interest overseas. Project

documentation, however, clearly reflect R&D/EID's interest in the agricultural economics and urban planning expertise of VPI. USAID and R&D/EID have other project vehicles to access talent on other issues which fall within the capabilities of VPI. A cooperative agreement is guided by its themes and judged by the conceptual coherence of its research and technical assistance. These problems reflect management weaknesses on the part of both the R&D/EID office and VPI's project manager.

E. SUSTAINABILITY

IDA has developed a strong reputation for its work on the sociocultural dimensions of development. The services of this institution are used frequently by other development organizations like the World Bank, United Nations Development Programme, and Interamerican Development Bank, and it often joins with private consulting companies and NGOs for Indefinite Quantity Contracts and bidding on projects. There is no question that through SARSA I and SARSA II, IDA has become an identified national and international resource to which people turn when considering sociocultural issues related to development.

SARSA support has been crucial in allowing the organization to maintain a stable complement of top-notch researchers. These individuals have developed a network of contacts and an understanding of AID that makes them capable of meeting the needs of mission, regional bureau and centrally-funded projects. Their long tenure and the loose association of IDA with the University of Binghamton means that they have been able to contribute to the development of a whole new generation of scholars through a Ph.D. program. This program is increasingly recognized for its strength in development anthropology. Many graduate students participate in IDA projects and then go on to generate their own support for dissertation support on projects related to SARSA interests. Thus, there is a significant multiplier effect of SARSA II funds. IDA collaborators in host countries benefit from the training they have received and are moving into positions where they contribute to social analysis of development programs.

SARSA II core support and the add-ons generated make up between 60 and 80 percent of IDA activities at any point in time. Thus, the stability referred to above, is very dependent on SARSA support. While IDA is sustainable without SARSA, its stability of personnel and the training component would suffer without AID support. The sustainability of AID efforts in social analysis would be seriously hampered if it did not have a mechanism by which it could access the services of IDA.

According to the Dean and Provost, SARSA support at Clark University has been an important part of how the university defines its image. The emphases at the university on international issues and on environmental studies are both significantly influenced and enhanced by SARSA. Because it is a small university, approximately 50-60 percent of university research funds are generated by SARSA activity. Although this would seem to imply that the sustainability of the individual elements of SARSA II projects at Clark University would be threatened without AID support, this is probably not the case.

The GIS efforts received some critical early core support and several add-ons have been received from SARSA II for producing manuals and for training. Sales of IDRISI software, however, now are largely able to support a staff of 33 people who work on sales and software development. Contracts with the United Nations Institute for Training and Research (UNITAR) for the production of training materials are now much more important to the GIS work at Clark than is SARSA support. The University is also looking at ways of building GIS into its curriculum and training programs. Thus, this effort has become self-sustaining.

While several PRA projects have been supported by SARSA II core and add-on funds, the majority of this work is also being supported by other donors. PRA work would be very likely to continue without the support of SARSA II because of the strong professional and personal commitment of the key researchers.

The only activity at Clark University that is not yet sustainable is ECOGEN. This work has been supported by core funds and has yet to generate any add-ons from missions and regional bureaus. Plans are for SARSA II support to end in the current fiscal year. It is apparent that a strong professional commitment to ECOGEN exists among several key individuals at Clark and several at VPI. Although these individuals, graduate students, and host country colleagues will continue to do work related to ECOGEN irrespective of whether there is SARSA II funding, we still recommend that SARSA II funds be allocated to this activity in the time remaining in the project.

What will be lost without SARSA-like support is the potential for an overall synthesis. There is a great deal of overlap between the methodologies of ECOGEN and PRA. While ECOGEN can benefit greatly from the rapid rural appraisal methods of PRA, in turn PRA can learn much from political ecology of ECOGEN (particularly the variety represented in Rocheleau's work with an explicit focus on ecology). That is one element of the synthesis. As stated in section III.B on Natural Resource Management, the meaning of resources is user specific, a meaning mediated through a complex nexus of relations. For example, a single piece of land or a single tree has different, often conflicting meanings to different groups. So a methodology in which the community members are involved in how and what they "signify" on the landscape is an important part of how "resources" are discovered from the bottom-up. PRA combined with the political ecology tools of ECOGEN can be fashioned into a powerful methodology for resource management -- the participatory determination on the landscape, of what are resources and to whom. GIS can help in the scaling up of PRA/ECOGEN from the local level to more macro levels. While there is no guaranteeing that this synthesis will occur with SARSA-like support, it is unlikely that it will occur without it.

VPI was brought into the project in 1989 to provide a) a Washington office and personnel for the project, b) competence in the areas of agricultural economics and urban planning, and c) an electronic means for accessing the services and publications of the project. Its Washington office has closed, the work in economics and urban planning has yet

to become tied to the other institutions or to AID missions, and the electronic network has never been established. VPI efforts, except for ECOGEN and the IPM research in Africa, have not been linked to other SARSA II institutions and have not generated add-ons. Their SARSA II type of work is unlikely to continue without continued core support.

F. CONCLUSIONS AND RECOMMENDATIONS

1) IDA has developed a sophisticated understanding of USAID and other donor needs, procedures, and arrangements. Clark's ability to productively interact with USAID missions and other donors is also fairly well-developed and through IDRISI, ECOGEN and PRA, the institution has carved out a useful niche in doing and transferring knowledge about how to do development research. VPI is still struggling with determining how to link SARSA II efforts with donor needs. Although it may be too late in the project cycle to do so, collaborative work among the three institutions should still be attempted.

2) IDA and Clark have established good working relationships at the administrative and management levels. The frictions that were noted during the SARSA I evaluations have evaporated. Clark and IDA jointly develop work plans and engage in budgetary planning. Unfortunately, tensions and difficulties have arisen with VPI. The inability of VPI to establish a coherent research plan and to generate mission add-ons has led to their increasing isolation from the rest of the project. It is probably too late in the project cycle for VPI to become an effective partner and budget support from SARSA should be reduced to a minimal level, perhaps only to continued work on ECOGEN.

3) The mid-term evaluation of SARSA I noted that the "... intended integration of geographic and anthropological perspectives has not materialized to the degree anticipated." There is only a minimal level of disciplinary, methodological, or institutional collaboration. The Project Director needs to provide more leadership of the intellectual effort to a) encourage greater integration of disciplines, b) encourage greater integration of institutions and c) and increase the visibility and usable format of results arising from SARSA II. The Project Director should also be actively involved in the field research and publication efforts.

4) There needs to be much more active participation by the Project Director and the AID project manager in structuring opportunities for interaction of researchers to promote greater integration of institutions and of the research efforts. While some of this interaction could occur at professional meetings with little additional expense, sufficient AID core funds should be made available to allow for workshops and principal investigator meetings focused on specific topics like ECOGEN, peri-urban research, natural resource management, etc.

5) Despite the lack of linkages among the disciplines and the institutions, SARSA II has contributed substantially to building a sustainable institutional capacity in several areas. As an institution, IDA has become a recognized center for sociocultural research on issues related to economic development. GIS and PRA services at Clark University are in demand by institutions and governments around the world. IDA and Clark work in SARSA II has

been effective in building the capacity of graduate students and host country collaborators to address issues related to the sociocultural dimensions of natural resource management.

V. RECOMMENDATIONS FOR FUTURE RESEARCH AND TECHNICAL ASSISTANCE ACTIVITIES

A. RECOMMENDATIONS FOR RECONFIGURATION OF NEAR TERM FUTURE OF THE PROJECT

It is relevant to reiterate that the intended purpose of SARSA II is "to generate and apply knowledge of regional production and resource management systems, in order to enhance AID, other donor, and host country knowledge and ability to plan and implement projects, programs and policies resulting in broad-based, sustainable income growth." Two interrelated research themes were identified:

- a) Integration of rural regions, including both rural and urban areas, into more efficient and equitable economic markets.
- b) The role in regional economies of the establishment, management, and maintenance, in ecological balance, of sustainable natural resources systems.

The SARSA II Project Paper also stated that: "SARSA II will specialize in the development and application of state of the art social, spatial, environmental and economic analyses to examine regional economic development." Through an add-on from the Women in Development Office, the SARSA II project is also expected to more fully integrate gender and WID considerations into other project activities.

The evaluation team believes that the project Goal, Purpose, and End of Project Status are still relevant to both the R&D/EID portfolio and the anticipated research needs of AID field missions, regional bureaus, and the R&D/EID office. Although the flexibility of the two broad research themes was an asset to AID when funds were more plentiful, the vague nature of the themes and the inability of the three cooperating institutions to develop a coherent conceptual framework seems likely to be detrimental to the project under current budgetary constraints. Because this evaluation has taken place close to the end of the project, no thematic changes are suggested for the balance of the life of the project. Instead, core resources should be marshalled to allow for syntheses of the ECOGEN, PRA, GIS and IDA work.

B. RECOMMENDATIONS FOR RECONFIGURATION OF INSTITUTIONAL AND MANAGEMENT CONSIDERATIONS

There are, however, some clear recommendations for a reconfiguration of the institutional and management structure of the project. These would make the project stronger and more effective during its final two years and would ease the transition to a potential SARSA follow-on (see sections V-C and V-D).

1. Because VPI has added little expertise or capacity to SARSA II, their support should be reduced to a level that allows them to continue participating in the ECOGEN work. The amount of money that remains within SARSA II is too little to really effectively build an institutional capacity at VPI. Because there is some potential for an eventual synthesis of the ECOGEN activities of Clark and VPI, remaining resources for VPI should be directed to this effort.
2. While the current Project Director made important substantive contributions during SARSA I and seems to be an effective manager of the project, he has not provided the substantive and administrative leadership needed to effect either the disciplinary synthesis of geography and anthropology or the institutional collaboration of IDA, Clark, and VPI. During the final stages of SARSA II, the Project Director should become a much more active participant in encouraging collaborative thinking about synthesizing the results of the project.
3. At the very least, the severe communication problems that exist between the project coordinator at VPI and the project director at Clark, as well as the near total lack of communication between IDA and VPI, must be resolved in the short term. The R&D/EID project manager and upper-level administrators must meet with the Project Director and coordinators from all three institutions to draw up guidelines and ground rules for the remainder of SARSA II.
4. The core funds remaining should be used to synthesize the research themes of SARSA II. Unless there is an extension of the project, further add-ons should not be pursued. While there may be several synthesis reports reflecting the disparate themes of SARSA II, our assessment is that these will provide some useful results and policy-relevant conclusions. The Project Director and Project Manager should insure that IDA participates in some of the synthesis of the ECOGEN work and that ECOGEN researchers participate in IDA syntheses.
5. An adequate budget must be provided to allow for greater interaction among the researchers involved in SARSA II. Communication has been limited, though even here there have been problems, to the Project Director and the coordinators. Regular work group meetings of the investigators are necessary to learn about one another's work and to adequately synthesize the work that has been accomplished.

C. RECOMMENDATIONS FOR RECONFIGURATION OF FUTURE PROJECTS

We believe strongly that AID needs to have some means like a Cooperative Agreement for accessing the perspectives, theoretical insights, and methodologies of non-economic social scientists. Thus, some type of follow-on to SARSA II should be planned. Research directions for future projects that follow SARSA II should be determined by three factors. These are: 1) relevance to the R&D/EID portfolio and the anticipated research needs of AID, field missions and regional bureaus, 2) AID-relevant advances made in social science research (anthropology, geography, economics, political science, etc.), and 3)

providing a coherent organizing theme that is likely to result in the possibility for real synthesis. The evaluation teams believes that there are two alternative ways in which a SARSA II follow-on could be organized.

1. Natural Resource Effects of Changing Labor Dynamics (NARELD)

R&D/EID has Cooperative Agreements that currently focus on land tenure issues (ACCESS) and on capital markets (FIRM). SARSA II has included a considerable amount of research on the third major factor of production -- labor. Labor markets throughout the world are currently undergoing dynamic shifts. People are migrating to cities and to new countries. Many rural household strategies combine wage labor in urban areas with rural pursuits. Much traditional agriculture has been reorganized to find profitable niches in the worldwide marketplace. And people increasingly resort to the informal sector to meet their survival needs. All of these population movements and the reorganization of production are having profound effects on natural resources. What people define as an important resource and how they treat these resources can change dramatically. In many regions of the world, we see farmers engaging in unsustainable resource practices and colonists participating in deforestation to accumulate a few resources. Many see their ultimate future as being tied to urban areas so that sustainable use of resources either is of little concern to them or not an economically viable alternative. In other cases, the explosive growth of urban areas proceeds without regard for its effect on the natural resource base. Traditional sectoral projects that focus only on forestry, agriculture, or housing are unlikely to adequately address the complexity of these issues and problems.

The work of SARSA II has already highlighted some important facets of these problems. For example, IDA has shown how destructive natural resource practices in highland regions are being reproduced in areas of lowland colonization in Bolivia. Their household income surveys in Burundi and in peri-urban research demonstrates the multiplicity of sources of income relied on by poor people.

The labor dynamics theme fits well with AID's current reorganization. Grounded firmly in the pillars of economic growth and the environment, the project would also touch on the pillars of democracy and population/health. While the potential NARELD project should not focus on population growth per se, it is important to have a project that looks at the relationship between population and natural resource utilization. Some overly simplistic and neo-Malthusian analyses see a direct correlation between population increase and environmental destruction, but the important relationships to explore concern the intervening variables -- that is, what are the particular mechanisms (e.g. farming practices, forestry policy, inequality of land tenure, etc.) that lead to abuses of natural resources. Labor dynamics can have a myriad set of effects on democratization as well. To mention just one, new migrants to cities or new countries are often excluded from participation in electoral and other political processes.

A true collaboration between geography and anthropology would be extremely important for understanding the important issues in NARELD. Movements of people and the changing use of natural resources are processes that should be understood at both the micro-level as well as the macro-level. Anthropological work with individuals, households, and communities can determine what processes are involved in how labor is being reorganized and relocated. A geographic component that monitored, perhaps partially with GIS techniques, these movements of people and how natural resource utilization is changing would complement the anthropological work. This would require GIS to include more social, cultural and economic variables in its data bases, as well as geographers who were interested in looking further into why the changes that appear in remote sensing are occurring.

2. Democratic Institutions for a Sustainable Environment (DISE)

The current reorganization of AID is responding to four agency priorities of economic growth, environment, democracy, and health/population. Historically, R&D/EID's office portfolio has included projects that fall into at least one of the first three areas of reorganization. The R&D/EID portfolio, however, would be greatly strengthened by a reconfiguration of SARSA that would explicitly encompass the intersection of economic growth, environment and democratization. Although SARSA II has emphasized many of these same themes, the time is right for a project that explores how AID can best support and nourish democratic community institutions (both traditional and emergent) to achieve economic growth via sustainable natural resource management (Democratic Institutions for Sustainable Environment - DISE).

This topic is of considerable interest to different constituencies within and outside of AID. A number of missions and several regional bureaus support projects that have been premised on community control over natural resources. However, most of these projects have an inadequate understanding of how to identify and support the institutions capable of sustaining broad-based economic growth through natural resource management. Several democracy projects exist within AID but few relate to environmental and natural resource management issues and economic growth. Related activities in the R&D/EID portfolio include a project providing assistance with democratic elections (IFES), another supports political scientists who do some work related to decentralization of natural resource management from centralized government (DFM), another that researches sustainable agriculture and forestry technologies and issues related to indigenous cultures (DESFIL) and a project that supports legal, economic and development scholars in their investigation of tenure-related policies and institutions (ACCESS II).

As a bilateral donor, AID is best able to support sectoral policy and institutional reform in host countries. For AID's purposes, the most useful and relevant research conducted under SARSA I and II offered appropriate recommendations on natural resource, migration and resettlement policies and institutions, while at the same time assessing the actual and potential impacts of these reforms on households, communities and local

institutions by using particular social science methods of research. In other words, the levels of analysis range from micro-level household issues to macro-level international factors and SARSA projects explored the relationships among the levels of analysis. The conceptual framework for the research should be drawn from political ecology and factors such as gender, class and ethnicity must be included. AID-relevant research related to democratic community institutions would identify which community members are involved in which local institutions (voice and representation issues), who benefits from group activities, how conflicts are resolved, what those institutions do and how they operate (pluralism), where are the institutions and members located (access), when and why a community institution is able to achieve economic growth for sustainable natural resource management, what the relationship of economic growth is to the extent of democracy within the organization and what the relationship is of outside actors/institutions and policies to the activities of the community institutions.

Relevant social science tools include those developed during SARSA II, particularly participatory methods suitable for studying households, communities and organizations. Methods can also be drawn from political science, natural resource management and economics. Part of the SARSA follow-on activities should also include comparisons of different survey methodologies for the establishment of baseline indicators, for monitoring changes over time, and for use in evaluation of projects.

This type of research is best accomplished by researchers from multiple disciplines working together on interdisciplinary research. Some combination of development anthropologists and sociologists would be required to explore traditional and emergent democratic institutions at the community level. The suggested topic is also likely to benefit from the input of political scientists, geographers, economists and natural resource management specialists.

Research on this topic appears to fit the analytical agendas of the different regional bureaus because all will need to expand their democracy-related activities. By linking environment and economic growth with democratic community institutions, the proposed project is able to support regional and mission interests in community-based natural resource management. Although Eastern Europe Bureau and the NIS Task Force are currently focusing on brown (pollution) environmental issues, the new EID project would still offer a relevant conceptual framework and set of tools to these bureaus.

D. RECOMMENDATIONS FOR INSTITUTIONAL AND MANAGEMENT ARRANGEMENTS

It is difficult to discuss the type of institutional and management arrangements that should be established without a definition of what a follow-on to SARSA would involve. Below are some general guidelines for such arrangements.

1. There should be a follow-on to SARSA II. The non-economic social sciences, especially anthropology and geography, have much to contribute in elucidating sociocultural and spatial dimensions of development. The best of the SARSA I and SARSA II work has demonstrated these benefits.
2. The advantage of a Cooperative Agreement, with an accompanying Basic Ordering Agreement, is that AID receives assistance in identifying the critical research needs and gaps in knowledge. Ideally, cooperators are selected who are already doing the most innovative, or cutting-edge research. AID thus benefits by funding both the short- and long-term research needed to allow for the accumulation of experience and evidence.
3. IDA, and to some extent Clark, have developed a research program that has developed a generalizable knowledge base, and they have been quite responsive to the needs of missions and bureaus. IDA has been especially effective in its substantive contributions to our understanding of the socioeconomic dimensions of development, while Clark has been effective in developing useful methodologies. These kinds of contributions are much less likely to arise out of a contract, an IQC or other administrative arrangement.
3. The previous records and accomplishments of the institutions should factor into a competition for a potential follow-on to SARSA II but the possibility of attracting new bidders with more state-of-the-art, innovative ideas should be explored. Cooperative Agreements like this one seem much more compatible with the research missions of universities and research institutes than consulting firms, and this consideration should also enter into a request for proposals.
4. A future Cooperative Agreement should have an adequate budget to accomplish the tasks it is assigned and a stable, supportive administrative structure within the agency. Future cooperators should receive more assistance from AID in identifying services and abilities they have that is relevant to missions and bureaus. The agency also needs to recognize that it must provide sufficient funds to cover the transaction costs of collaboration -- especially face-to-face meetings of investigators to set research agendas, agree on conceptual frameworks, methods, the division of labor, and field research strategy for the project.

APPENDIX A: PEOPLE INTERVIEWED

Clark University

Dianne Rocheleau, Professor, Geography Department
Barbara Thomas-Slayter, Director, International Development Program
Richard Ford, Professor, History Department and International Development Program
Gerald Karaska, Professor, Geography Department, Director of SARSA II
Roger Kasperson, Provost of the University
Allen Jones, Dean of the University
Jean Kasperson, Director, CENED Library
Laurie Ross, Graduate Student, International Development Program
James Toledano, Graduate Student, Department of Geography and employee in the Clark Labs for Cartographic Technology and Geographic Analysis
J. Ronald Eastman, Director, Clark Labs for Cartographic Technology and Geographic Analysis
Michele Fulk, Graduate Student, International Development Program and employee in the Clark Labs for Cartographic Technology and Geographic Analysis

Institute for Development Anthropology

Michael M. Horowitz, Director, Professor of Anthropology, Binghamton University
Peter D. Little, Senior Research Associate and Program Coordinator
Michael Painter, Senior Research Associate
Muneera Salem-Murdock, Senior Research Associate
Catherine Dolan, Research Assistant
Vivian Carlip, Editorial Associate
Stephanie Horowitz, Assistant Librarian
Sylvia Horowitz, Editorial Associate
Cheryl Naslund, Librarian
Samir Abzakh, Information Systems Specialist
Vera Beers-Tyler, Grants and Contracts Officer
Group meeting with graduate students working at IDA

Virginia Polytechnic University

Cornelia Butler-Flora, Head, Sociology Department
Gladys Buenavista, Graduate Student, Sociology Department
Virginia Seitz, Professor, Sociology Department
David Midgarden, Graduate Student, Department of Entomology, Penn State University (formerly in the Department of Entomology at VPI)
R. Kent Reid, Office of International Research and Development
Jeff Alwang, Professor, Agricultural and Applied Economics Department
Jim Campbell, Professor, Department of Geography

Tamim Younos, Professor, Department of Agricultural Engineering
 Irma Silva-Barbeau, Professor, Agricultural and Applied Economics Department
 Jim Bohland, Professor, Urban Affairs and Planning Department
 Jim Littlefield, Professor, Marketing Department
 Jan Flora, Professor, Agricultural and Applied Economics Department (formerly head of VPI SARSA II project)
 S.K. De Datta, Program Coordinator and Director of the Office of International Research and Development
 Herb Stovener, Professor, Agricultural and Applied Economics Department (formerly coordinator of VPI SARSA II Project)
 Jay Sullivan, Professor, Department of Forestry

Washington, D.C.

T. David Johnston, AID, R&D/EID Office Director
 Gloria Steele, AID, R&D/EID Office, Resource Access and Development Division Chief
 Tom Kellerman, AID, R&D/PO/AE
 Walter Knausenberger, AID, AFR/ARTS/FARA
 Curt Grimm, AAAS Fellow AID, AFR/ONI, former affiliate of IDA
 Carolyn Barnes, AID, POL/CDIE/E
 Ans Burgett, AID, R&D/EID/RAD
 Patricia Vondal, AID, POL/CDIE/E
 Pamela Stanbury, AID, R&D/EID/RAD
 Daniel Dworkin, AID, AFR/ARTS/FARA
 Rosalie Huisinga Norem, AID, R&D/WID
 James Smith, AID, AFR/ARTS
 Joan Atherton, AID, AFR/DP/PSE
 Diana Putnam, AID, NIS Task Force
 Eric Chetwynd, retired Office Director, AID, R&D/EID
 Avrom Bendavid-Val, Chemonics PRIDE Project
 Monique Cohen, AID, AA/R&D
 Sher Plunkett, AID, LAC

TELEPHONE INTERVIEWS

Patrick Fleuret, USAID/Dar es Salaam, Tanzania (formerly REDSO)
 Michael Cernea, World Bank
 William Partridge, World Bank

USAID CABLE QUESTIONNAIRE RESPONSES

Tunisia	Burundi	Honduras
Senegal	Nepal	Mali
AFR/ARTS	Botswana	
Dominican Republic	Bolivia	

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(see also, attached separate lists of IDA/SARSA and Clark publications; proposals for add-ons were also reviewed)

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