

# SETTLEMENT AND RESOURCE SYSTEMS ANALYSIS AND MANAGEMENT

Clark University  
Institute for Development Anthropology

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## FOCUS OF ACTIVITIES

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Natural Resource Based Regional Development

New Lands Settlement

Rural-Urban Linkages

**Expertise available in:**

Resource Management in the Context of Regional Development

New Lands Settlement: integrative approaches to population resettlement, migrations and displacement

The Dynamics of Rural-Urban Linkages and Secondary Cities in Regional Development

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# OVERVIEW

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## **PARTICIPANTS:**

- Anthropologists
- Geographers
- Economists
- Regional Planners
- Environmentalists
- Engineers
- Political Scientists
- Rural Sociologists
- Demographers

## **RESOURCES AND FACILITIES:**

- Professional Network
- Computer-based Cartography
- Earth Resource Data Analysis System
- Micro-computer Resource Analysis System
- Cartographic Laboratory
- Documentation Center
- Development Anthropology Library
- Map Library

## **FUNCTIONS:**

- Project Design
- Project Implementation
- Project Evaluation
- Short-and-long-term Field Consultancies
- Training Programs
- Workshops

## **METHODOLOGIES**

- Resource Mapping
- Analysis of
  - Resource Trends
  - Land and Farming Systems
  - Community Organization
  - Rural-Urban Networks
  - Central Place Functions
  - Marketing Systems

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# PROJECT PROSPECTUS

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The Cooperative Agreement between the United States Agency for International Development (USAID) and Clark University, in collaboration with the Institute for Development Anthropology (IDA) provides USAID missions and host country institutions with technical expertise for designing, implementing, and evaluating regional development activities. Members of the group provide expertise in the physical and social sciences as well as in planning and management for local regional development linked to national level institutions. Clark/IDA approaches regional resource management from the following perspectives: the potential and problems of the resource base, the problems of displaced people and the development of rural-urban networks. These three complementary approaches are:

## **Resource Management in the Context of Regional Development**

Clark/IDA approaches resource management from a problem-oriented, regional perspective designed to increase the effectiveness of sectoral projects as well as region-based projects. This approach includes assessing bio-physical resource problems, analyzing resource management issues, developing practical resource management plans, and assisting local groups and organizations with implementation of selected activities for productive regional development.

Clark/IDA brings particular experience in:

- complementary analyses of social and ecological systems with emphasis on the political and administrative institutions which would be involved in implementation;
- preparing plans for the management, use or rehabilitation of a region's natural resources, based on adaptations of present resource

- systems;
- involving local people and institutions at all stages of project planning and implementation.
  - specialized information systems for future planning and development.

## **New Lands Settlement Programs**

Regional development strategies involving new lands settlement work most effectively when existing and new populations integrate their livelihood systems. Clark / IDA emphasizes local participation in developing settlement plans for land and water use which seek to benefit both old and new communities; which minimize disruption to existing livelihood and social systems, and which consider the long range resource impact of proposed changes in production systems at household, community and regional levels. Settlement is seen as an opportunity to introduce incremental change for long-term development rather than an emergency response to a short-term situation. Successful settlement programs often are those which stimulate a long-term process of regional development focused on the opportunities of the new situation.

## **Rural-Urban Linkages and Functions of Secondary Cities**

The spatial distribution of economic, social and political activities and the linkages among and between primary cities, intermediate-sized cities, market towns, rural service centers and rural areas play an important role in rural and regional development. Building the institutional capacity of host governments to effectively identify, analyze and plan for important rural-urban linkages and interactions is emphasized by Clark / IDA. Regional systems methodologies are employed to help policy makers, planners, and managers develop and implement a spatial plan aimed at improving a regional system. Specific problems addressed include the location of marketing facilities for purchase of agricultural inputs and sale of produce, service delivery to rural areas, the improvement of farmer access to urban-based rural services, and the stimulation of employment in enterprises in small urban centers, rural market towns and service centers, using private and public sector approaches.

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# APPLIED RESEARCH AND CONSULTING

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Over the past year Clark/IDA has provided short-term consulting services and has launched long-term field activities in a number of countries. Among them are the following:

## **Zimbabwe (Sabi Valley)**

Clark/IDA is assisting Zimbabwe's Agriculture and Rural Development Authority (ARDA) with environmental and resource management strategies in the Central Sabi Valley area of Eastern Zimbabwe. Currently heavy soil loss from agricultural and grazing land is a major problem impairing productive agricultural enterprise. Improved management of soil and water resources by commercial farmers, communal farmers, irrigation scheme operators, public works authorities, and other resource users is a central objective of the project. Resource management guidelines will be developed in consultation with the government and with local conservation committees to ensure that technical solutions are practical and feasible in terms of existing management systems. Such guidelines will be part of a plan for improved production and marketing systems in the area.

## **Zimbabwe (Sebungwe Region)**

Clark/IDA is assisting the Department of Land Management of the University of Zimbabwe Faculty of Agriculture in providing information on local production systems for the Sebungwe regional plan, which is the first such planning effort in Zimbabwe. The Clark/IDA report analyzed the economic systems of the people of the northern part of the region, as well as alternative development options for the area which might facilitate the coexistence of people, wildlife and national parks. During 1983, Clark/IDA will provide further contribution in the design of

specific research and development projects within the region.

## **Niger**

A principal investigator for Clark/IDA visited Niger in August, 1982, to assess the area development implications of several USAID/Niger development programs. The Niger Mission identified the lack of regional and spatial planning as a major constraint to an effective rural development program in Niger. While in Niger he recommended ways in which sound social analysis and regional planning could be linked to programs in forestry and land use planning, range and livestock development, and agricultural marketing and production.

## **Pakistan**

The Cooperative Agreement is assisting the Pakistan USAID Mission in designing a major area development project in Baluchistan. Work was initiated in September, 1982, and has included a literature review, an assessment of the administrative and institutional capacities of the Baluchistan provincial government, and a multi-disciplinary effort to assess the development potential in Baluchistan in order to identify an appropriate AID program for the Province. In January 1983 The Cooperative Agreement completed the Project Identification Document (PID) for the Baluchistan Area Development project. It is expected that Clark/IDA will have an ongoing role in project monitoring and evaluation.

## **Ecuador**

Clark/IDA has a resident advisor to the Ecuadorean agency FONAPRE to assist in regional planning for municipal development in three secondary cities – Santo Domingo, Amato, and Marsala. He is conducting a regional study of the marketing system surrounding one of the cities, focusing on the spatial structure and the behavioral processes in the marketing chains. Other advisors are providing technical assistance to all these activities over a six-month period. Urban-rural linkages are being strengthened and a regional perspective on planning is being introduced.

## **Panama**

In early 1983 a team from Clark/IDA conducted a project evaluation for USAID/Panama. The \$20 million Rural Growth and Service Center (URBE) project was designed to strengthen the contribution of secondary cities to national development. In addition to evaluating the project, Clark has been asked to advise in programming the project's remaining funds.

## **Tunisia**

In January 1983 the cooperative agreement provided USAID/Tunis with an assessment of the GOT position on regional development and the relevance of its position to a proposed five-year strategy statement for AID participation in Tunisian development. The Clark/IDA team investigated the role of the recently created Commissariat General au Developpement Regional (CGDR), established to elaborate an overall strategy for regional development. Clark/IDA also reviewed relationships between USAID/Tunis and the Office de Developpement pour la Tunisie Centrale (ODTC), regarding the latter's effectiveness in contributing to the economic development of Central Tunisia. The team investigated the potential contributions to regional planning and development of several other government and private sector organizations.

Other countries in which Clark/IDA are discussing with USAID Missions possible future project activities are the Philippines, Sri Lanka, Sudan, Somalia, Bolivia, Peru, Jordan, Indonesia, Thailand, Nepal, Mali, Senegal and Lesotho.

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# WORKSHOPS AND PUBLICATIONS

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## Workshops

Clark and the Institute for Development Anthropology organize workshops which provide a forum for the exchange of ideas vital to the development of new approaches in the field of regional analysis and development. During the first year of the project, three workshops explored each of three approaches to regional development. The topics were 'Rural-Urban Linkages and Regional Development,' 'Resource-Based Regional Planning,' and 'New Lands Settlement and Regional Development.' The workshops successfully began a dialogue among the Clark/IDA core group, AID, and an expanding network of colleagues. During the coming months further exploration of the topics raised in the workshops will result in the production of the first of the series of thematic papers under the Cooperative Agreement.

## Communications and Information Dissemination

The dissemination of conceptual papers and research reports is an important aspect of work under the Cooperative Agreement. A paper series covers conceptual issues and a report series includes the research reports which follow both short and long term field visits, as well as summary reports on work undertaken for the Cooperative Agreement. Practical guides provide information and strategies useful for field applications.

The Clark/IDA group has produced a concept paper outlining fundamental themes of regional development and local resource management. In the report series, the following are currently available: 'Resource Management Issues in Zimbabwe Project Area: Sabi Valley,' 'Regional Planning for People, Parks and Wildlife in the Northern Sebungwe Region,' 'A Socioeconomic Literature Review and Analysis of

Baluchistan, Pakistan.' 'Opportunities for Area Development in Baluchistan, Pakistan: A Regional Survey,' and reports on each of the three workshops.

Information about the activities of the Cooperative Agreement is also published in the Clark International Development Program newsletter, 'Network for Environment and Development,' and in IDA's newsletter, 'Development Anthropology Network.'

## **Networking**

Building a network of scholars and practitioners is an important component of the Cooperative Agreement. Information on skills, expertise, interests and availability for field research of several hundred specialists is being computerized. This process will allow Clark/IDA to respond in a timely manner to USAID requests for technical assistance. In addition, Clark and IDA have long term collegial relationships with a number of Third World research institutions. Colleagues in these institutions are an essential part of the network, facilitating and enhancing effectiveness in the field.

## **Training**

Training activities are central to the Cooperative Agreement on Settlement and Resource Systems Analysis and Management. The objectives of the training component are:

- 1) to enable host country nationals to plan, manage and evaluate the use of resources in the context of self-sustaining development;
- 2) to assist individuals in improving specific job skills;
- 3) to improve the management capabilities of individuals, institutions, and communities.

Clark and IDA are prepared to address specific training needs such as on-the-job training in research survey techniques, data gathering, and data analysis. This involves working with individuals associated with the project to impart specific knowledge and skills. If, in the course of implementing the Cooperative Agreement, IDA and Clark University identify specific needs for trained manpower relevant to regional

development problems, they will provide training in the United States or elsewhere.

A second training focus is on local level communities and their leadership. Clark/IDA specializes in generating public awareness of environmental and resource issues at the community level through community and local leadership workshops. Such seminars or workshops increase community understanding of the work being carried out under the project, as well as the problems of resource use, and the options available for dealing with them. Emphasis is on project problem identification, prioritization, and planning to promote appropriate changes.

Short term training workshops are a third focus. Clark University and IDA offer workshops of one to three weeks duration focusing on priorities and needs identified by local institutions in host countries. The seminars offered at Clark University draw on the wider resources of the University, such as those of the School of Management or the Center for Technology, Environment and Development. They can also be offered elsewhere in the U.S. and in the host country. These workshops are modeled on Clark/IDA's extensive experience with workshops on environmental and developmental problems. This experience includes Clark's Exxon-sponsored seminars on effective resource management and a number of in-country workshops conducted under the Environmental and Resource Management in Africa (ETMA) project, IDA's workshop on Social Analysis of Development Projects in the Sahel (held in Nouakchott, Mauritania) and two workshops on African Pastoralism and Livestock Development (held in the U.S.)

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# FACILITIES AT CLARK UNIVERSITY AND THE INSTITUTE FOR DEVELOPMENT ANTHROPOLOGY

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## **Cartographic Laboratory**

The Cartographic Laboratory at Clark University is one of the nation's best university laboratories. The Lab produces general and specialty maps for use in the field and to accompany reports and publications, as well as charts, tables, and graphs. The Cart Lab can produce maps according to specific requirements of international development projects, including full color maps. Facilities are available for contract work with non-Clark organizations. The Lab continues to expand its facilities for work with satellite imagery and currently uses a micro-computer system for computer-generated mapping.

## **Center for Technology, Environment and Development (CENTED)**

CENTED is an interdisciplinary research organization established at Clark University in 1978 to conduct basic and applied research related to major societal and global problems. CENTED also conducts training programs for the professional researcher and graduate and undergraduate students, and contributes its expertise by responsibly informing governmental policy makers and the public.

## **Computer Facilities**

Clark University facilities include a Digital Equipment Company (DEC) VAX 11 780 computer with a four Megabyte main memory, two 'disk drive' units each with a capacity of more than 500 Megabytes, one tape drive, two line printers, and a card reader. Basic, Fortran, Cobol and Pascal are available as are various editing, statistical packages, and

other utility programs. Clark's network of colleagues is accessible by computer. Most important for the Cooperative Agreement on Settlement and Resource Systems Analysis and Management, Clark University has acquired technology in computer-assisted cartography and digital image processing through ERDAS, the Earth Resource Data Analysis System. This system permits a full merger of LANDSAT data into the geographical data base system.

In addition, IDA's portable micro-computer facilities allow field-based word and data processing.

### **Development Anthropology Library**

The Institute for Development Anthropology maintains a collection of documents on rural area development that is fully indexed by sector and by country. Specialized collections exist on African River Basin Development, New Lands Settlement, Semi-Arid/Arid Land Development and Social Forestry. The IDA collection has served as the core 'text' materials for the graduate program in Development Anthropology at State University of New York at Binghamton.

### **Documentation Center**

Clark's Documentation Center on resource issues in developing countries facilitates research on environment, resource management, and international development. The Center contains extensive country-specific collections on Eastern and Southern Africa as well as selected materials from other parts of the developing world. Journals related to African affairs, vertical files on topics of current research, and collections of developing country government publications are available.

In addition, the collection houses general development literature. The Documentation Center is supported and augmented by the University's Goddard Library, (450,000 volumes and 2,300 periodicals) as well as by Clark's Center for Technology, Environment and Development's research holdings.

### **IDA Associates**

The Institute maintains a network of more than 400 associates. The

network includes persons with a collective competence in over 100 languages and with a field experience in more than 50 countries.

### **Map Library**

The Guy H. Burnham Map and Aerial Photograph Library at Clark houses a collection of over 125,000 maps, along with gazetteers, atlases, and aerial photographs. As a U.S. Government repository, the map library receives maps published by many federal agencies. In addition to maintaining the present collection, the Map Library is actively acquiring new maps with an annual accession rate of 4,000 sheets. The Library has an increasing focus on Africa and Latin America as a result of recent accessions which respond to Clark's research needs. The Library is expanding into the area of remote sensing with appropriate annexation of a satellite imagery collection and the necessary equipment for its interpretation.

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# PROJECT ORGANIZATION AND MANAGEMENT

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Program management is guided by a small steering committee. The members of the Steering Committee include:

**LEN BERRY**, Clark University  
**ERIC CHETWYND**, AID Washington  
**GERALD KARASKA**, Clark University  
**PETER LITTLE**, Institute for Development Anthropology  
**THAYER SCUDDER**, Institute for Development Anthropology  
**MARILYN SILBERFEIN**, AID Washington  
**NANCY SOUTHERLAND**, Clark University

The Steering Committee, through a collaborative process, plans program direction, policies, and strategies.

Key personnel related to this project are:

**LEN BERRY**, Clark University, Co-Director of the International Development Program and Director of the Graduate School of Geography. Dr. Berry has worked in Asia, the Near East, Africa and Latin America on resource management and regional planning issues. He is recognized as a leading expert on questions of resource management in developing countries.

**MICHAEL HOROWITZ**, President of the Institute for Development Anthropology and Professor of Anthropology at the State University of New York at Binghamton, Dr. Horowitz is a specialist on arid and semi-arid production systems, and has worked extensively in the Caribbean and the Sahel (Upper Volta, Mali, and Niger), Sudan and Tunisia.

**GERALD KARASKA**, Clark University, Professor of Geography. Dr. Karaska has worked in Central and South America and Asia on spatial analysis, rural-urban linkages, and economic issues. He is editor of Economic Geography which is published at Clark University.

**THAYER SCUDDER**, Vice President of the Institute for Development Anthropology, and Professor of Anthropology at the California Institute of Technology, Dr. Scudder has specialized for 25 years in river basin development, new land settlement, and population relocation in the tropics and subtropics.

Among those associated with the Cooperative Agreement are:

**ERIC BELSKY**, research associate at Clark University. Mr. Belsky is a specialist in integrated regional development, urbanization theory, regional development planning and regional systems analysis.

**EILEEN BERRY**, research scientist at Clark University. Dr. Berry is a specialist in household economic systems in Africa, land use systems, and micro-level spatial aspects of economic systems.

**DAVID BROKENSHA**, Director of the Institute for Development Anthropology and Professor of Anthropology at the University of California, Santa Barbara. Dr. Brokensha is a specialist in social forestry, natural resource management, community development and regional planning.

**THOMAS CARROLL**, project associate, advisor to the Inter American Development Bank and Adjunct Professor of Economics at George Washington University. Dr. Carroll is a former FAO staff member and has had substantial experience in the areas of land reform and rural-urban linkages.

**ERIC CHETWYND**, Division Chief of the Rural and Regional Development Division of the Office of Multisectoral Development, Bureau of Science and Technology. Dr. Chetwynd is a regional economist with considerable AID experience, especially in Indonesia, Korea and the Philippines.

**RONALD EASTMAN**, Visiting Professor of Geography, Clark University. Dr. Eastman is a specialist in cartographic design and production, automated cartography, remote sensing and digital image processing, photomapping, geographical information systems. Field experience in South America and the Middle East.

**HUGH EVANS**, project associate completing doctoral work at the Massachusetts Institute of Technology, Department of Urban Studies and Development. Mr. Evans has worked on urban housing projects and on urban-rural linkage projects primarily in Central and Latin America. His

areas of specialization are rural development, public administration for regional development and field survey design.

**RICHARD FORD**, Co-Director, International Development Program and Associate Professor of History at Clark University. Dr. Ford is a specialist in economic history and educational and information systems. He has had extensive experience in Africa.

**ROBERT HACKENBERG**, project associate, Professor of Anthropology at the University of Colorado at Boulder and Program Director, Population Processes Research, Institute of Behavioral Science at Boulder. Dr. Hackenberg has worked in the Philippines and Panama and is a specialist in demography, household economic organization and rural-urban linkage systems.

**PERRY HANSON**, Visiting Assistant Professor of Geography, Clark University. Dr. Hanson is a specialist in geographic information systems, quantitative methods and spatial analysis in development planning.

**CHARLES HAYS, M.D.** project associate and Associate Professor of International Development (affiliate) Clark University. Dr. Hays is a specialist in medical epidemiology, rural health delivery systems, nutrition and health planning and education. His field experience is in Africa and Asia.

**DOUGLAS JOHNSON**, Associate Professor of Geography at Clark University and specialist in cultural ecology, economic development of pastoral nomads and arid lands management. Dr. Johnson has field experience in North Africa, the Middle East and India.

**BARRY LENTNEK**, project associate and Associate Professor of Economics, State University of New York, Buffalo. Dr. Lentnek, whose Ph.D. is in Geography, is a specialist in spatial analysis, regionalization and urbanization in Latin America.

**LAURENCE LEWIS**, Associate Professor of Geography, Clark University. Dr. Lewis is a specialist in geomorphological processes of the tropics, especially soil resources; experience in Africa and the Caribbean.

**PETER LITTLE**, research associate at the Institute for Development Anthropology. Dr. Little has worked in East Africa and Pakistan on pastoral production systems and regional livestock and grain marketing systems.

**MICHAEL PAINTER**, research associate and editor, Institute for Development Anthropology. Dr. Painter has worked in Peru on food

production systems and regional economic analysis.

**DENNIS RONDINELLI**, project associate and Professor of Development Planning at the Maxwell School of Citizenship and Public Affairs. Dr. Rondinelli has over a decade of development experience and has been a senior consultant to a number of field projects around the world. His specialization is in urban and regional development, development administration and natural resources and development.

**MUNEERA SALEM-MURDOCK**, research associate at the Institute for Development Anthropology and specialist on the impact of river basin development, irrigation, women in development, pastoralism and agrarian production systems in the Middle East and Arabic speaking East and North East Africa.

**HARRY SCHWARZ**, Director and Professor of Environmental Affairs, Clark University. Dr. Schwarz is a specialist in water engineering, environmental systems analysis, river basin planning; extensive experience in Africa.

**MARILYN SILBERFEIN**, project manager at the Rural and Regional Development Division, Office of Multisectoral Development. Dr. Silberfein is on leave from her position as chairman of the Geography Department, Temple University. She has undertaken research on settlement and rural development in East and Central Africa.

**NANCY SOUTHERLAND**, research associate at Clark University and specialist in city and regional planning and regional systems analysis.

**BRIAN SPOONER**, project associate and Associate Professor of Anthropology at the University of Pennsylvania. Dr. Spooner has specialized in pastoralism and social/ecological analysis in the Middle East.

**SIAN STEWARD**, Director of Research Administration, International Development Program at Clark University. She specializes in documentation pertaining to Africa and environmental issues.

**BARBARA P. THOMAS**, Assistant Professor and Deputy Director International Development Program, Clark University. Dr. Thomas is a specialist in community organization, institution-building and local level participation. She has field experience in Asia and Africa.

**B. L. TURNER II**, Associate Professor of Geography, Clark University and specialist in cultural ecology with emphasis on the dynamics of agricultural systems and their change. Dr. Turner has field experience in Latin America and Africa.

**WYNN WALKER**, project associate and Professor of Agricultural and Irrigation Engineering, Utah State University. Dr. Walker is a specialist in large scale irrigation management systems in the Middle East, North Africa and South Asia.

**RICHARD WILKIE**, project associate and Professor of Geography, University of Massachusetts, Amherst. Dr. Wilkie has field experience in Central and Latin America and Asia, and is a specialist in migration and population dynamics and urban-rural linkages.

**LAKSHMAN YAPA**, project associate and Professor of Geography at the Pennsylvania State University. Dr. Yapa has worked as a consultant in Sri Lanka, the Philippines, and Malaysia. His areas of expertise are in spatial analysis, statistical methods and operations research.

Through their varied experience in issues pertaining to developing countries, the Clark/IDA researchers have developed a world-wide network of colleagues available for participation in multidisciplinary teams for field research. Expertise currently found at Clark and IDA includes the fields of geography, anthropology, economics, resource management, project monitoring and evaluations, public health, ecology, environmental and social impact analysis, organizational behavior, regional planning and computer analysis and cartography.

For information about workshops, publications or development planning and resource management assistance under the Cooperative Agreement, contact:

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