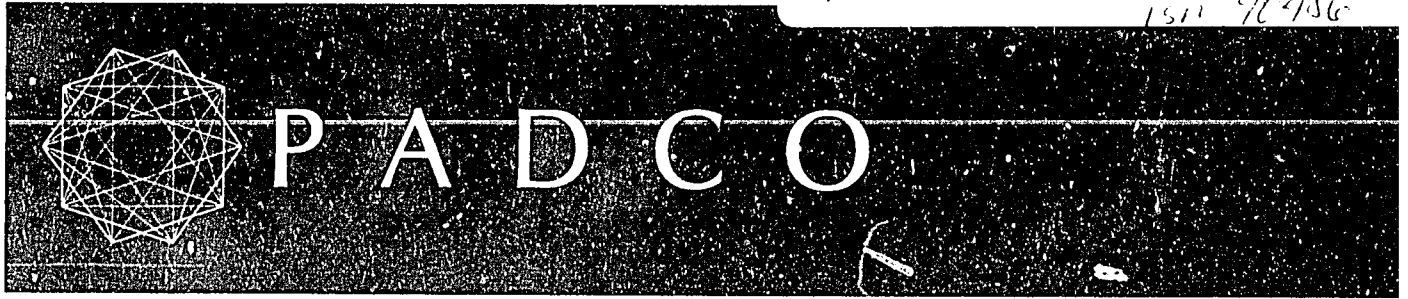


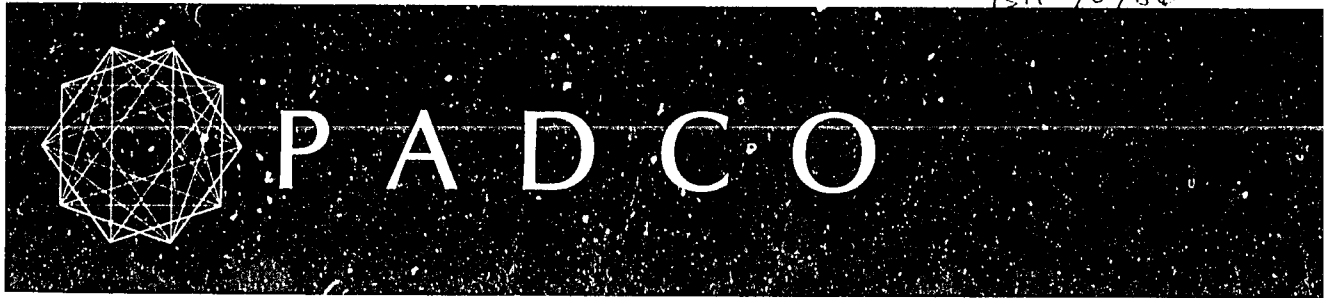
- PN-HBS-678
ISSN 90486



PLANNING AND DEVELOPMENT COLLABORATIVE INTERNATIONAL

PROVIDES GOVERNMENTS AND PRIVATE
CLIENTS IN DEVELOPING COUNTRIES WITH
PLANNING, MANAGEMENT, RESEARCH AND
TRAINING SERVICES FOR URBAN, RURAL
AND REGIONAL DEVELOPMENT.

PN-HBS-678
ISSN 90486



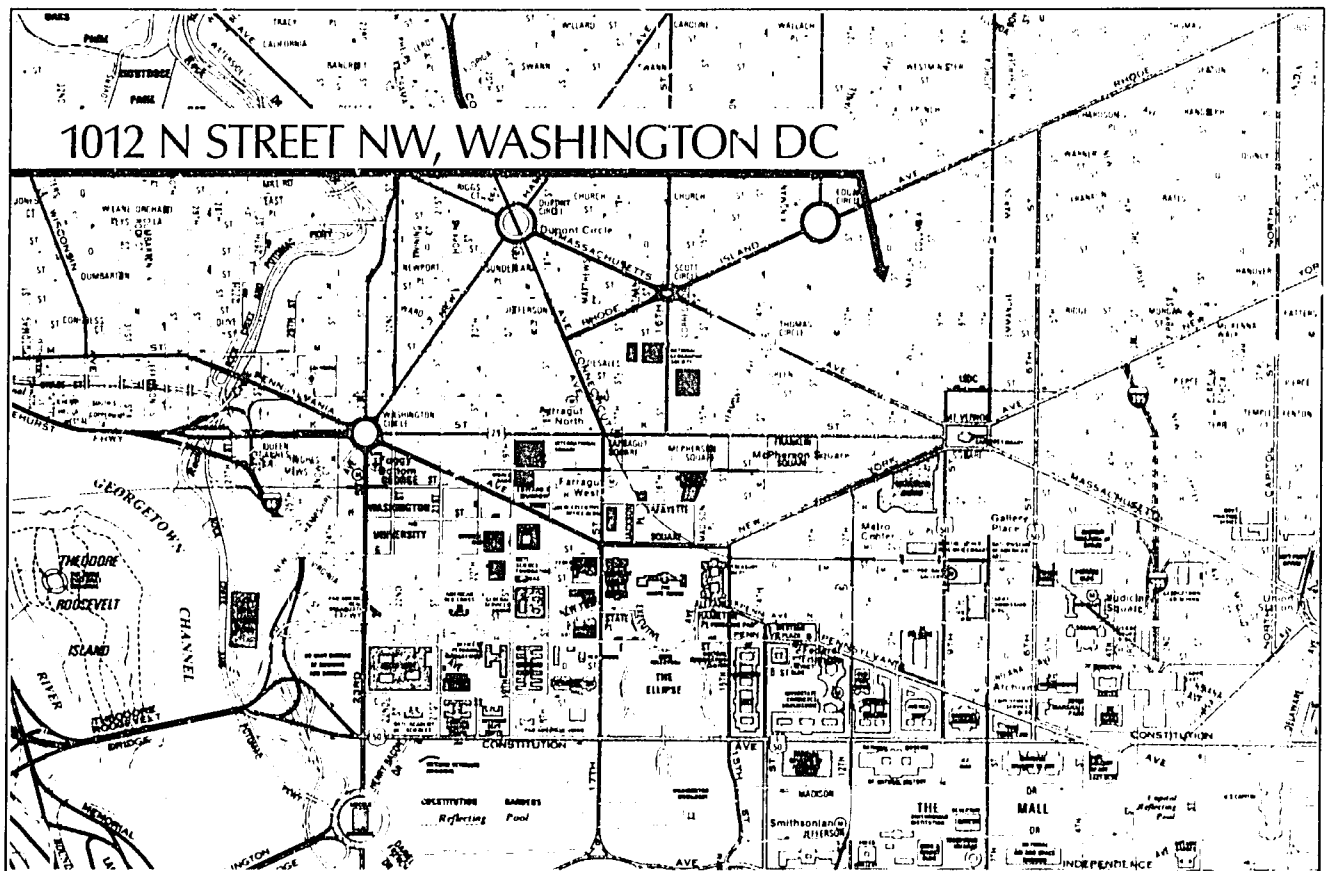
PLANNING AND DEVELOPMENT COLLABORATIVE INTERNATIONAL



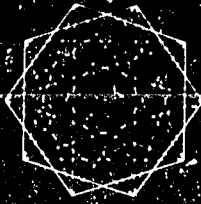
TABLE OF CONTENTS

Concept of PADCO	3
PADCO's Worldwide Experience	7
Services Offered by PADCO	15
Urban and Regional Planning and Analysis	16
Training and Institutional Development	28
Housing	34
Disaster Relief and Preparedness	42
Research and Evaluation	46
PADCO Computer Modeling Capacity	49
PADCO Organization, Management and Staff	59

June 1988



New PADCO office building and location



Concept of PADCO



PADCO's Approach

PADCO was formed in September 1965 to provide integrated action planning and research services in urban and regional development in Africa, Asia, Latin America and the Middle East. Since that date, PADCO has honored its commitment to work exclusively in the Third World. The original five guiding principles established by the founders have not changed.

- Planning for the developing countries is a specialization; methods and techniques cannot be transferred without major modifications
- Development planning is a broad interdisciplinary field. The specialist's contribution is most effective when interlinked with the contributions of a variety of experts
- International teams of planning technicians are more useful to the developing countries than are single-nation teams
- The expertise that has been established within the developing countries themselves should be utilized as fully as possible
- If the services of consulting groups are to be of lasting value, considerable emphasis should be placed on sustained support, including in-service training for local professionals

In response to PADCO's guiding principles, a unique consulting organization has evolved over the years. PADCO is owned by its own staff, members of its Board of Directors, and its consulting associates.

Challenge of Urbanization

For more than 22 years, PADCO has provided assistance to the developing nations to meet the challenge posed by urbanization, one of the most important, troublesome and, at the same time, promising characteristics of the 20th Century. Urbanization brings with its vast population shifts the need for rapid technological advancement, radical changes in values and customs and, in many cases, the need for major changes in policy and administrative systems. It brings also an opportunity to accelerate economic development and to improve living conditions dramatically for three quarters of the world's population.



Much has been learned during this period. There is a broader comprehension of the correlation between urbanization and national economic growth. Urban and rural development are no longer seen as opposed but complementary. A growing body of knowledge and experience is demonstrating the ways in which urban and rural economies are interdependent.

Focus on Lowest-Income Households

The major focus of PADCO's professional work has been, and will continue to be, a basic concern with lowest-income households in developing countries. This concern, shared by many governments and international agencies, spans the entire spectrum of development issues from rural to urban, from economic and social to spatial and physical planning, and from immediate action programming to long-term policy perspectives.

At the present time, the rapid growth of cities is occurring in a global climate characterized by slow or stagnant GDP growth, high levels of existing unemployment and underemployment, unfavorable commodity prices, and high interest rates. The primary national development issue today is promoting the most efficient allocation of scarce financial resources to urban and rural areas where investments will yield the highest and most rapid returns in terms of economic growth and job generation while providing an essential minimum level of basic needs in other locations.

This will require better policy analysis, better programming and budgeting, and more careful evaluation of projects. It will also depend on the progressive upgrading and improvement of public sector institutions and the more effective mobilization and utilization of private sector capacities. Technical assistance and training efforts throughout the developing world must effectively address these major urban/regional development challenges.

Major Urban Development Issues

PADCO's structure and skill base are oriented toward the urban development issues of greatest importance in the 1980s and 1990s.

Policy Analysis

Improved capacity is available to analyze national policies that affect urban/regional development explicitly and implicitly, including: macroeconomic policies in areas such as trade, exchange rates, export promotion, finance and policies related to industrial and agricultural development as well as other economic sectors. The objective of policy analysis is to promote a coherent policy framework that maximizes the positive impact of urban/regional investments on national economic development and job generation.

Institutional Development/Training

Improvements in the institutional structure for urban/regional development at the central, regional and local levels of government are required. These include the legal framework for public administration, the intergovernmental relations system, and the internal



management and procedures of institutions. Improvements in management, budgeting, project feasibility and cost-benefit analysis are particularly important.

Private Sector Promotion

The promotion of policy and institutional "climates" favorable to private sector initiative should be a key aspect of urban development efforts. The lessons learned since the mid-1970s have shown the limits of public sector capacity to respond to the shelter and urban development needs of rapidly increasing urban populations in the developing world. Effective public/private sector partnerships should be sought to expand resources available for shelter and increase housing production. Shelter production systems should be established which respond to market forces.

Municipal/Local Finance

Improvements in the capacity of local governments to generate their own financial resources, including better administration of existing revenues, the development of new sources of revenues and improvements in local-central fiscal relations are crucial in this era of economic constraints. Innovative approaches which reflect the political and institutional constraints facing local governments in the developing countries are required.

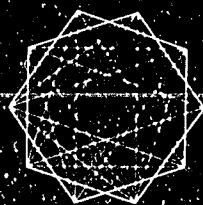
Urban Land and Infrastructure

The formulation and implementation of policy, regulatory and planning mechanisms designed to ensure an adequate supply of serviced land at affordable prices is essential. The lack of minimum infrastructure is, with land, a major impediment in the physical development of urban areas and productive economic investment. Institutional and policy reforms are needed to improve infrastructure delivery and maintenance, including management and operation, financing, design standards and technologies, and cost recovery.

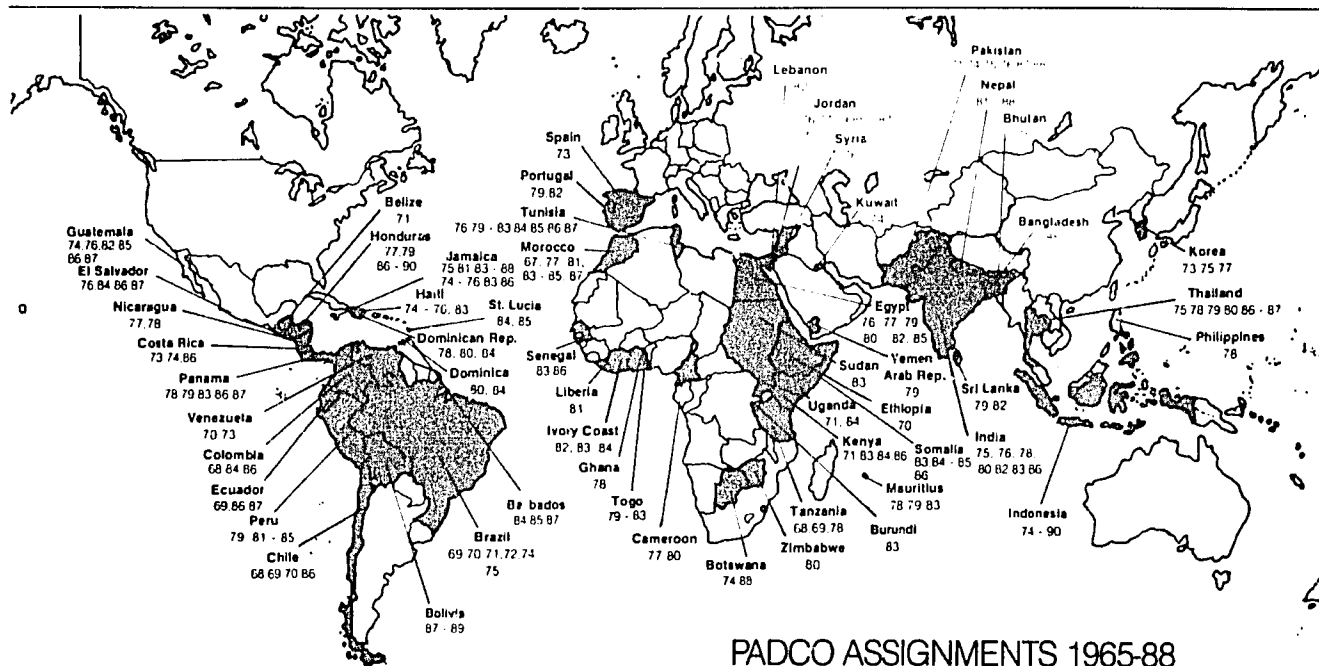
Urban Shelter

National shelter objectives should be coordinated with macroeconomic and fiscal policies. Financial soundness and self-sufficiency of housing finance institutions and systems need to be promoted through interest rate reform, better internal management and cost recovery. Private sector participation in policy, program and project development should be promoted and public sector activities focused to support and complement private sector efforts. Much also remains to be done to promote legitimate design standards that are affordable to low- and moderate-income households.





PADCO's Worldwide Experience

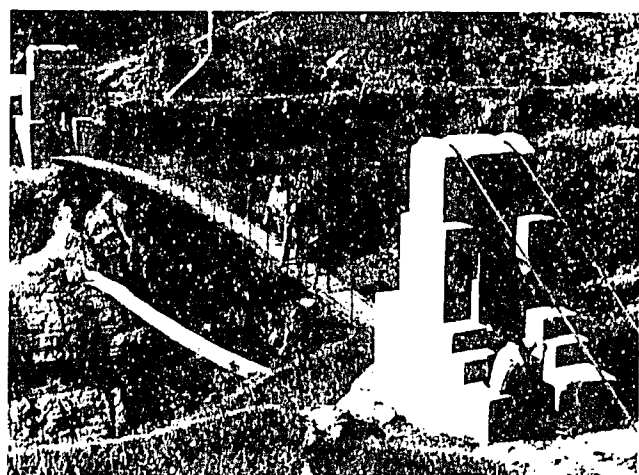


The following chart illustrates the depth and breadth of PADCO's experience in the developing countries. Since it was founded in 1965, PADCO has made it a policy to work only in developing countries. The firm has, therefore, built up not only an expertise in the disciplines described in the following section but an expertise in their application to Third World countries. Since its founding, PADCO has worked:

- In 53 developing countries
- In every developing region

During this time, PADCO has worked for many of the major international development organizations as well as regional banks and individual governments, including the following:

- **International Bank for Reconstruction and Development (The World Bank)**
50 assignments in 15 countries
- **USAID Office of Housing and Urban Programs**
112 assignments in 43 countries
- **Ford Foundation**
6 assignments in 5 countries
- **African Development Bank**
3 assignments



Photography by Mark Fritzer

- **United Nations**
13 assignments in 10 countries
- **Asian Development Bank**
2 assignments in 2 countries
- **Inter-American Development Bank**
2 assignments in 2 countries

Chart I enumerates PADCO assignments, arranged by developing regions, and indicates the type of assignment, contracting agency, and date of the assignment.

Chart I-A

PADCO's Experience in Africa

	TYPE OF ASSIGNMENT	AGENCY	DATE
1. Africa	Urbanization study	USAID	1982
2. African Development Bank	Housing policy	USAID	1977
	Housing lending activities	USAID	1978
	Urban policy development	AFDB	1988
3. Botswana	Development of physical planning function for Government of Botswana (Institutional Development)	Ford Foundation	1974
4. Burundi	Project identification study	USAID	1983
5. Cameroon	Sites and services planning	USAID	1977-80
	Urban and regional development strategy	USAID	1979
6. East/Southern Africa	Training needs assessment	USAID	1985
	Urbanization study of SADACC states	USAID	1988
7. Ethiopia	Agricultural analysis	World Bank	1971
8. Ghana	Shelter sector assessment	USAID	1978
9. Cote d'Ivoire	Shelter sector assessment	USAID	1982
	Project identification study	USAID	1983
	Secondary cities site selection	USAID	1984
	Shelter finance study	USAID	1984
	Sites and services design	USAID	1984
	Urban development assessment	USAID	1984
10. Kenya	Urban development and housing sector report	World Bank	1971
	Secondary cities project	USAID	1983
	Private sector housing study	USAID	1984
	Financial management review	USAID	1984
	Management training	USAID	1985
11. Liberia	National housing policy study	USAID	1981
12. Mauritius	Shelter sector assessment and housing market study	USAID	1978-79
	Shelter sector update	USAID	1983
13. Morocco	Bidonville. Analysis of urban centers and recommendations for public policy changes	Ford Foundation	1969
	Shelter sector analysis	USAID	1977
	Housing policy advisor	USAID	1981-83
	Upgrading handbook	USAID	1983
	Private sector shelter development and finance	World Bank	1984-85
	Project/institutional evaluation	USAID	1985
	Tetouan project design assistance	USAID	1985
	Urban land policy study	USAID	1986-87
14. Niger	Technical assistance on prototype housing	USAID	1983
15. Senegal	Urban development assessment	USAID	1983
16. Somalia	Urban development assessment	USAID	1983
	Training workshop and urban development strategy paper	USAID	1983
	Land subdivision and pricing policy	USAID	1984-85
	Land development support	USAID	1985
17. Sudan	Shelter sector review	USAID	1982
	Shelter and institution building project	USAID	1983
18. Tanzania	Arusha development plan	Ford Foundation	1968
	Rural development program design	UNDP	1971
	East African Community. Assisted with building program for office buildings and housing	Ford Foundation	1973
	Urban development corporation public housing analysis	Government of Tanzania	1969
19. Togo	Institution building and shelter program development	USAID	1979-83
	Small enterprise development training	USAID	1985-86

	TYPE OF ASSIGNMENT	AGENCY	DATE
20. Tunisia	Settlement upgrading survey	USAID	1976
	Human settlement upgrading	USAID	1979-81
	Technical support for sites and services	USAID	1984-85
	Shelter sector assessment	USAID	1987
	Land market study	USAID	1987-88
	Computer training assistance	USAID	1987
	Cost recovery schedules for municipal land development	USAID	1988
21. Uganda	Urban development and housing sector report	World Bank	1971
	Housing policy review and workshop	USAID	1984
22. Zimbabwe	Shelter sector study	USAID	1980



Chart I-B

PADCO's Experience in Latin America and the Caribbean

	TYPE OF ASSIGNMENT	AGENCY	DATE
1. Barbados	Shelter design and construction study	USAID	1984
	Housing costs study	USAID	1984
2. Belize	Agricultural support	World Bank	1971
3. Brazil	Needs assessment Federal Ministry of Planning	SERFHAU	1970
	Planning for integrated development. Metropolitan area development of Sao Paulo	GEGRAN	1971
	National housing and urban planning agency. Information needs assessment	SERFHAU	1969-72
	Ministry of Finance-Development of information system	IPEA	1972
	Support services for Sao Paulo Metro Company	ASPLAN	1972-74
	Transportation planning work program	GEGRAN	1973-75
4. Bolivia	Technical assistance to S&L system	USAID	1987-89
	National housing policy study	USAID	1978
5. Central America	National housing policy development	USAID	1975
	Urbanization and economic development study	USAID	1984-85
	Shelter and urban development training strategy and plan	INCAE/USAID	1985
	Urban development policy advisory services	USAID/RHUDO	1986-90
6. Chile	Central de Informacion de Vivienda y Urbanismo. Information needs assessment	Ford Foundation	1968-69
	Ministry of Housing and Urbanism. Data needs assessment	USAID	1970
	Shelter and urban development training	World Bank	1986
7. Colombia	National urban policy review	USAID	1968
	Shelter sector assessment	USAID	1984
	Housing policy workshop	USAID	1985
	BCHF financial strategy	USAID	1987
8. Costa Rica	Transportation plan for San Jose	UNDP	1973-74
	Housing needs assessment	USAID	1986
	Technical assistance to national mortgage bank	USAID	1987
9. Dominica	Evaluation of disaster relief response	USAID	1980
10. Dominican Republic	Urban planning and project identification	IADB	1978
	Evaluation of disaster relief response	USAID	1980
	Shelter sector assessment	USAID	1980
	Evaluation of appropriate technology for rural housing	USAID	1984
11. Ecuador	Prepare guidelines for future metropolitan development programming	USAID	1969
	Social analysis	USAID	1985
	Private sector shelter development	USAID	1985
	Analysis of savings and loan system	USAID	1986
	Urban development project review	USAID	1987
12. El Salvador	Urban/regional development study	UNDP	1976-78
	Shelter sector assessment and workshop	USAID	1985
	Technical assistance to PRONAVIPO	USAID	1987
	Prefeasibility review of reconstruction program	USAID	1987
13. Guatemala	National housing policy	BANVI	1974
	Earthquake reconstruction. Defining housing policy following earthquake of 1976	USAID	1976
	Housing market survey	USAID	1982
	Economic analysis of shelter program	IADB	1986
	Shelter sector finance	USAID	1986
	National urban development review	USAID/UNCHS	1985-86
14. Haiti	Port-au-Prince urban/regional development plan	UNDP	1974-78
	Market analysis for housing credit bank	USAID	1983
	Technical support for pilot housing project	USAID	1986

	TYPE OF ASSIGNMENT	AGENCY	DATE
15. Honduras	Actions in support of housing policies and plans (IIPUP) Integrated improvement program for the urban poor	USAID/ROCAP	1977
	Housing finance study	USAID	1979
	Housing policy development	USAID	1982
	Housing needs assessment	USAID	1985
		USAID	1986
16. Jamaica	Preparation of sites and services project	World Bank	1973
	Rural housing issues and responses	USAID	1975
	National housing policy study	USAID	1981-82
	Institution building and shelter program development	USAID	1983-88
	Housing needs assessment study support	USAID	1986
17. Nicaragua	Leon development plan. Sustained support program in organizing urban planning capability	USAID	1976-77
	Urban project feasibility study for Managua and six secondary cities	World Bank	1978
18. Panama	Project identification	World Bank	1978
	Project design—Colon	World Bank	1979
	National urban policy study	USAID	1983-84
	Urban planning review	USAID	1983
	Private sector housing guaranty program	USAID	1983
	Methodologies for the preparation of low-income housing projects	UNDP	1987
19. Peru	Project paper for socio-economic development of low-income regions	USAID	1979
	Shelter program design	World Bank	1981
	Shelter sector assessment and housing policy study	USAID	1982
	Country development strategy statement	USAID	1983
	Shelter sector assessment	USAID	1985
	National urban policy study	USAID	1983-84
20. St. Lucia	Housing policy and program development support	USAID	1984-85
21. Venezuela	Review of planning and information systems	Ministry, Public Works	1970
	Comprehensive urban planning	Ministry, Public Works	1973

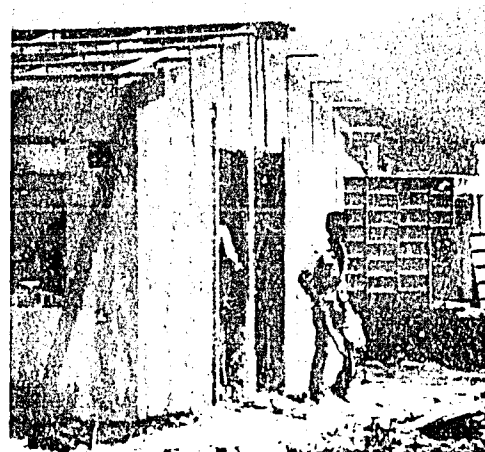


Chart I-C

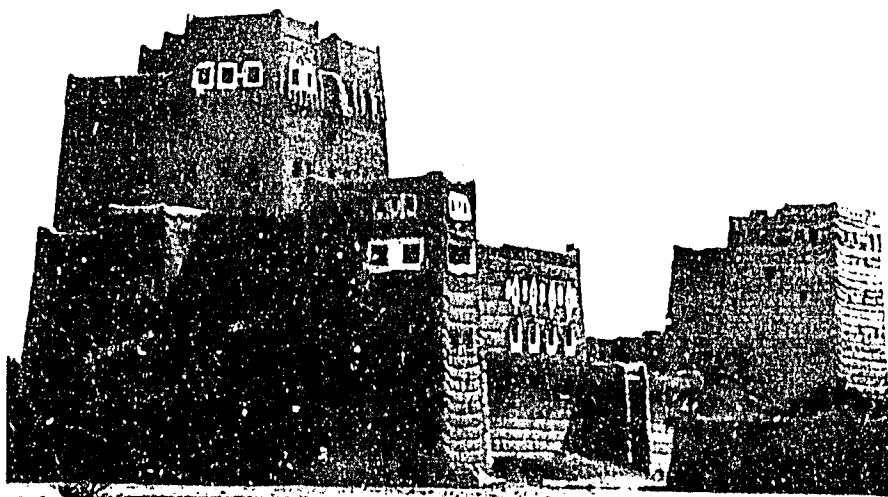
PADCO's Experience in Asia

	TYPE OF ASSIGNMENT	AGENCY	DATE
1. Bangladesh	National urban policy study and terms of reference	United Nations	1985
2. Bhutan	Analysis of construction technology and materials for housing	UNDP	1975
3. India	Madras—preparing sites and services project	World Bank	1976, 1978
	Bombay—review of urban planning and development issues	World Bank	1975
	Kanpur—housing project preparation	World Bank	1980
	Technical review of housing programs and finance	USAID	1982
	Socio-economic analysis	USAID	1983
4. Indonesia	Shelter design evaluation	USAID	1985-86
	Regional planning study design. Regional planning for Indonesia	USAID	1974
	Northern Sumatra regional development	USAID	1978-81
	Kampung improvement program and policy	UNDP	1975
	Central Java Kampung improvement program	USAID	1976
	National Urban Development Corporation (PERUMNAS). Sites and services and low-cost housing projects	World Bank	1976-79
	Medan urban development project. Settlement upgrading and services project	USAID	1979
	Kabupaten provincial planning and management training	USAID	1978-79
	Training in urban and regional planning and development	USAID	1982-86
	Urban infrastructure and services. National urban development strategy study	UNDP	1986-88
	Central Java small towns. Urban development program impact evaluation study	ADB	1984-86
	PERUMNAS management support	World Bank	1987-88
5. Korea	Tata Kota Training	World Bank	1988-89
	National housing policy. Review and evaluate national housing policies and implementation capacities	USAID	1973
	Housing policy training program. Housing improvement program	USAID	1975
	Housing guaranty case study	USAID	1977
6. Nepal	National housing policy	USAID	1974-76
	Rapti integrated rural development program	USAID	1980-86
	Urban development assessment	USAID	1983-84
	Kathmandu Valley land policy	USAID	1985-86
	Urban development policy and planning support	USAID	1984-87
	Employment trends study	USAID	1986
	Town training needs assessment	USAID	1987
7. Pakistan	Town planning and investment programming	UNDP-World Bank	1987-89
	Lahore development planning	World Bank	1975
	Karachi urban and regional plan	UNDP	1971-74
	Sites and services program	GOP	1971-76
8. Philippines	Karachi Master Plan	UNCHS	1988-89
	IBRD urban project	World Bank	1976
	Intermediate cities study. Shelter sector assessment	USAID	1978
9. Sri Lanka	Urban project study	USAID	1979
	Disaster reconstruction and mitigation	UNDP	1979
10. Taiwan	Program evaluation of housing programs	USAID	1982
	National housing policy	ROC/USAID	1973
11. Thailand			
	National housing authority. Review of current housing programs and future plans	USAID	1975
	Sites and services project review	World Bank	1978
	Shelter project	USAID	1978
	Housing programs. Settlement upgrading and sites and services projects	NHA/Thailand	1979-80
	NHA urban land acquisition and management	ADB/NHA	1986-87

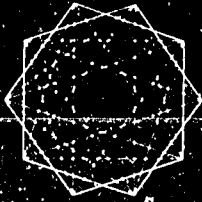
Chart I-D

PADCO's Experience in the Middle East

	TYPE OF ASSIGNMENT	AGENCY	DATE
MIDDLE EAST			
1. Egypt	Decentralization program development National urban policy study	USAID Ministry of Development & New Communities/USAID	1985 1980-82
	Study on housing finance, urban land use policy, housing and community upgrading for low-income groups	USAID	1977
	Preparation of immediate action proposals for housing	USAID	1976
	Settlement upgrading and sites and services planning	World Bank	1977-78
2. Jordan	Jordan Valley regional planning project, Settlement planning and housing recommendations Amman urban/regional planning project National housing policy study Project paper development	Jordan Valley Commission/USAID USAID USAID USAID	1976-77 1979 1986-87 1986-87
3. Kuwait	House-building program	Kuwait Housing Board	1974
4. Lebanon	Disaster relief program	USAID	1982
5. Middle East	Urbanization study	USAID	1983
6. Syria	New town pre-feasibility study	USAID	1976
7. Turkey	Istanbul urban planning	World Bank	1972
8. Yemen Arab Republic	Urban sector review	World Bank	1979
OTHER			
1. Canada	Evaluating proposals for planning new towns in Northern Canada	Parsons & Whittemore	1970
2. Portugal	Review of Portugal's public investment in the urban sector Information system for national housing program Project paper assistance	World Bank USAID USAID	1979 1981 1984
3. Spain	Study design for comprehensive urban development program, Madrid	COPLACO	1973
4. Training Workshops	Prepare and present training workshops for senior-level professionals from developing countries	USAID	1978-82







Services Offered by PADCO

PADCO is concerned about the achievement of specific development action that will improve the standard-of-living of people in developing countries. Capital resources will undoubtedly be scarce. Therefore, mobilization of new resources and the efficient allocation of investment will be critical determinants of the rate of economic growth that can be achieved, the number and kinds of jobs created, and the standard-of-living that can be supported among middle- and lower-income households.

PADCO is prepared to contribute to the formulation and implementation of cost-effective development policies, programs and projects toward these ends. It has developed analytical techniques to assist host country decisionmakers to resolve in operational terms the fundamental tradeoffs between desirable but not always compatible objectives.

PADCO is interested in providing sustained support to public sector ministries or agencies entrusted with development planning and implementation functions for urban and rural areas in order to improve their efficiency and effectiveness.

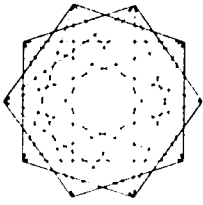
PADCO has a training division that supports and encourages training activities both in-country and internationally.

PADCO is interested in undertaking practical research assignments and policy, program and project evaluation.

PADCO provides integrated urban and regional planning services, together with specialized services in individual aspects of development, including the following:



- **Urban and Regional Planning and Analysis**
- **Training and Institutional Development**
- **Housing**
- **Disaster Relief and Preparedness**
- **Research and Evaluation**
- **Computer Modeling Capacity**



Urban and Regional Planning and Analysis

PADCO's Services

PADCO's work in urban and regional planning today focuses on issues related to the allocation and use of resources for the attainment of given development objectives. In today's world, the prime objective is usually economic growth at the national or local level. Other critical objectives that must often be balanced with economic growth are equity, environmental conservation, self-sufficiency, and certain political issues.

The problem of resource allocation and use has various dimensions:

- Allocation of resources among traditional sectors
- Allocation of resources among geographic spaces (regions or urban centers)
- Allocation of resources among levels of government
- Timeframe for use of resources: short, medium, or long
- Allocation of authority over mobilization and use of resources
- Degree of governmental control over resource allocation and use

PADCO undertakes assignments that require multi-disciplinary approaches to policy formulation and institutional development. PADCO draws upon expertise from the fields of planning, economics, finance, management, engineering, and design. Much of PADCO's work has dealt with the allocation of resources among geographic spaces. PADCO has developed methods of analysis for rational decision making about where to invest and what kinds of investments make sense in different places. PADCO has also carried out efforts to incorporate urban and regional analysis within existing planning and budgeting systems. PADCO understands the ways in which all of the above-mentioned dimensions must be taken into account in each new project.

Economic growth and better living standards for the poor in the developing countries cannot be treated as separable objectives. Both require efficient use of



scarce resources. In line with this, PADCO believes that the key issues in urban and regional planning today are:

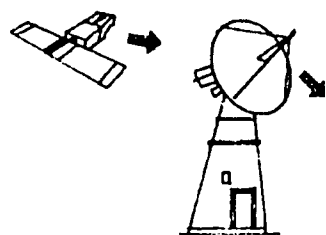
- Rational investment analysis of programs and projects
- Focusing resources on regions and urban centers with economic development potential
- Efficient institutional management
- Financial soundness of programs

These are the needs toward which PADCO's organizational structure and skill are oriented. All of these issues must be dealt with simultaneously: the first two as they involve the efficient use of resources for economic growth and job creation; the second two as they relate to meeting the basic needs of the entire population.

PADCO is continuing to develop and use computerized models and geo-data information systems for urban planning projects. Through the utilization of the latest technologies in satellite imagery and data processing it is possible to streamline physical planning and data management such that planners can concentrate on the policy issues as well as modify plans in response to changing conditions.

USE OF SATELLITE IMAGES IN REGIONAL AND URBAN PLANNING

HIGH TECHNOLOGY:



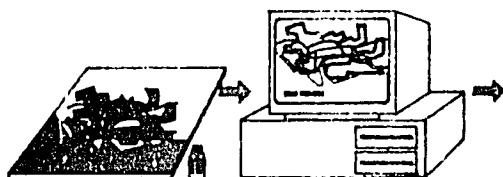
PROCESSING SATELLITE IMAGE FROM DIGITAL TAPES
USING REMOTE SENSING IMAGE PROCESSING SOFTWARE



- LAND USE CLASSIFICATION
- COMPUTERIZED LAND USE MAP
- ROAD NETWORK MAP

MEDIUM TECHNOLOGY:

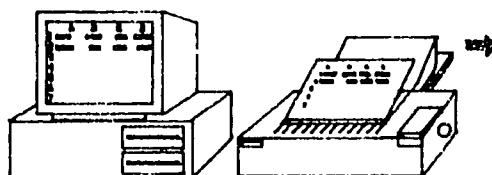
PROCESSING SATELLITE IMAGE FROM PRINT
USING GIS OR CAD SOFTWARE



- BASE MAP DIGITIZED FOR:
- REGIONAL PLANNING
- URBAN PLANNING
- LAND DEVELOPMENT
- LAND MANAGEMENT
- UPGRADING

CURRENT TECHNOLOGY:

PROCESSING DATA
USING SPREADSHEET AND DATA MANAGEMENT SYSTEM



- LAND USE ASSESSMENT
- INFRASTRUCTURE ASSESSMENT
- HOUSING STOCK ASSESSMENT
- POPULATION ESTIMATES
- LAND MARKET EVALUATION
- INFRASTRUCTURE PLANNING
- HOUSING MARKET ANALYSIS
- TRANSPORT ECONOMICS AND PLANNING
- URBAN FISCAL MANAGEMENT
- PROGRAM EVALUATION & MONITORING

PADCO's work within the area of urban and regional development planning encompasses the following main subjects:

Urban and Regional Development Planning

- Computerized geo-data information systems
- Urban development policy
- Regional planning and spatial analysis
- Urban and regional economics
- Urban-rural linkages
- Program planning and budgeting

Development Management and Finance

- Institutional roles and policies
- Institutional structure and operations
- Legal and regulatory frameworks for urban and regional development
- Institutional finance
- Municipal management and finance
- Public and private administration

Service Delivery for Urban and Rural Areas

- Demand assessment
- Infrastructure standards and costs
- Maintenance and operations

Manpower and Employment

- Employment and income generation
- Manpower training
- Small-scale enterprise approaches and development
- Legal and regulatory issues for employment

Land Policy

- Legal and administrative constraints to urban land development
- Land market studies
- Land management training

Chart II and the following project descriptions illustrate PADCO's experience in Urban and Regional Planning and Analysis.

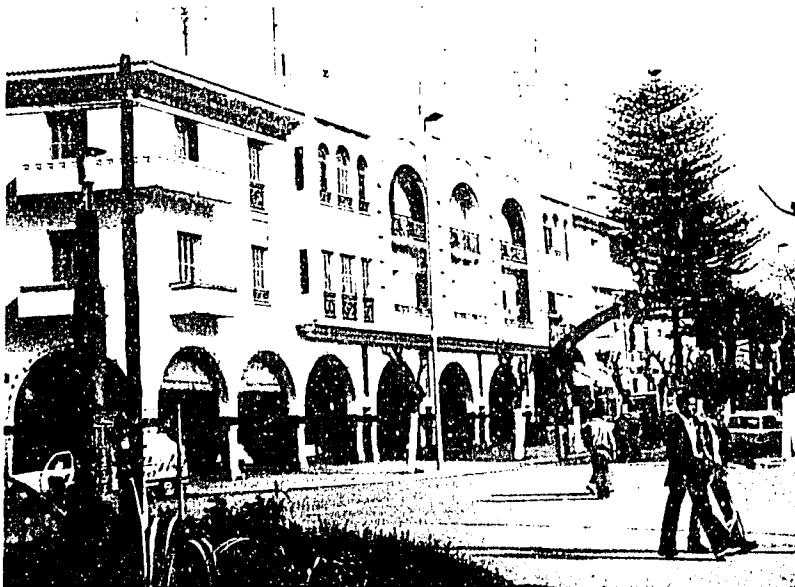
Chart II

PADCO Professional Experience

Urban, Regional and Rural Development

	Urban and Regional Development Planning	Development Management and Finance	Service Delivery	Manpower and Employment
AFRICA				
Botswana	■	■		
Cameroon	■	■	■	■
Ethiopia	■			
Ghana	■	■		■
Cote d'Ivoire	■	■	■	
Kenya	■		■	
Liberia	■			
Mauritius	■		■	■
Morocco	■		■	
Senegal	■			
Somalia	■	■		
Tanzania	■	■	■	■
Togo	■	■	■	■
Tunisia	■	■	■	
Uganda	■			
Zimbabwe	■			
ASIA				
Bangladesh	■			
Bhutan	■			■
India	■	■	■	
Indonesia	■	■	■	■
Korea			■	
Nepal	■	■	■	■
Pakistan	■	■	■	■
Philippines		■	■	■
Sri Lanka			■	
Taiwan	■			
Thailand	■	■	■	
LATIN AMERICA AND CARIBBEAN				
Belize	■			
Bolivia		■		
Brazil	■	■		
Chile	■		■	
Colombia	■	■		
Costa Rica	■	■	■	
Dominica			■	
Dominican Republic	■	■	■	
Ecuador	■	■		
El Salvador	■	■	■	■
Guatemala	■	■	■	
Haiti	■	■	■	
Honduras	■	■	■	
Jamaica	■	■	■	
Nicaragua	■	■	■	■
Panama	■	■	■	■
Peru	■	■		
St. Lucia	■	■		
Venezuela	■	■		

	Urban and Regional Development Planning	Development Management and Finance	Service Delivery	Manpower and Employment
MIDDLE EAST				
Egypt	■	■	■	■
Jordan	■	■	■	
Kuwait	■	■		
Lebanon			■	
Syria	■	■	■	■
Turkey	■		■	
Yemen Arab Republic	■			
OTHER				
Canada	■			
Portugal	■	■		
Spain	■			



Using Satellite Images for Urban Planning and Management

SPOT-URBAN APPLICATIONS:

Effective urban planning requires access to accurate and continuously updated information concerning the evolution of urban areas. With new generations of remote sensing satellites and improved data processing techniques, satellite images and other media can provide fast, cost effective, and accurate access to data for urban development planning and programming.

Images and data produced by satellites such as LANDSAT have been generating land resource data over the past 10 years for such purposes as agriculture, forestry, mining, etc.; however, the resolution of these images was not sharp enough for most urban planning purposes. PADCO first applied LANDSAT data for urban planning in Egypt (the Egyptian National Urban Policy Study in 1980-82) but the use of the data was limited to defining gross land uses and built-up urban areas. Since 1986, SPOT I, a satellite financed by France, Belgium and Sweden, has been sending images eight times more precise than LANDSAT with a ground resolution equal to 10 meters in panchromatic mode (black and white images) and 20 meters in multi-spectral mode (color images). A 10 meter resolution is generally adequate for urban development purposes as it roughly corresponds to most urban physical features of concern: street widths and lengths, building and plot size, etc. Options also exist for three dimensional interpretation for infrastructure planning purposes. PADCO is using SPOT I for a current assignment in Karachi, Pakistan.

Satellite images provide less expensive, albeit slightly less accurate, views of urban areas than aerial photography but can be much more readily obtained. SPOT I, in a continuous regular orbit, provides up-to-date images of urban centers throughout the world. For most urban development and management purposes, the imagery and associated media provide an excellent source of detailed data on land use, transportation systems, and housing stock.

Techniques are now available for producing land use data in a graphic format on personal computers. In addition to mapping cities and urban services, current data relevant to planning and management of

urban areas can be assembled at low cost to assist urban programming and local policy dialogue. GIS (Geographical Information System) and CAD (Computer Aided Design) software allow data labels to be written directly on maps to develop a land use or land cover information base which can later be tied to urban service indicators. Location-specific data can then be directly imported to other database or spreadsheet software to facilitate their analysis or use in planning, infrastructure investment and fiscal resource models, thus creating urban information systems which can be manipulated and kept up to date.

INTERPRETING SATELLITE IMAGES:

Processing Satellite Images from Digital Tapes

Satellite images come on digital tapes and can be immediately processed on a micro-computer system type IBM/AT equipped with a hard disk of 130MG and a tape drive.

Satellite image processing from tapes permits urban information systems to be readily assembled. However, this type of processing requires more sophisticated equipment and software than alternative approaches and may be unaffordable to organizations such as small municipalities unless they are shared by other departments or agencies.

Processing Satellite Images from Transparencies or Prints

For most urban planning tasks in developing countries where budgets and computer equipment are limited, using transparencies or prints of satellite images is, by far, a less expensive and more practical way to prepare an urban base map and data base for urban planning and investment programming. Transparencies or prints at a scale 1:400,000 can be enlarged to workable scales of from 1:10,000 to 1:50,000. Base maps can be traced manually over these images since major roads, and different land use types (i.e. residential, commercial, industrial, institutional uses) can be easily identified at these scales. Accuracy of maps can be verified by field measurements.

Similar work can be done by digitizing satellite prints using microcomputer applications such as GIS or CAD software. The advantage of digitizing satellite

Nepal

ASSIGNMENT: Urban/Regional Advisory Services
CLIENTS: Government of Nepal
Ministry of Local Government
USAID
DATE: 1984-87

OBJECTIVES:

- Assist the Government of Nepal to establish an operational urban development policy
- Assist the Government of Nepal to establish a decentralized town development program

ACTIVITIES:

Long-Term Urban/Regional Advisor

Under an AID mission and Office of Housing and Urban Programs funded contract, PADCO provided the services of an urban and regional advisor to Nepal from August 1984 to June 1987. The advisor worked extensively with the National Planning Commission, the Ministry of Local Government, and Department of Housing, Building, and Physical Planning on policy and management issues related to urban and housing development at both the national and regional levels.

Specific support was provided to the Rapti Zone Integrated Rural Development Project. Outputs included the Rapti Zone Regional Assessment, general technical and managerial guidance, and support for the "Financing Rural Local Panchayats (districts) in Nepal" study which was recently completed by Syracuse University with support from a PADCO subcontractor, LCRC.

Other direct and indirect outputs of the advisory support and short-term support directed by the advisor included:

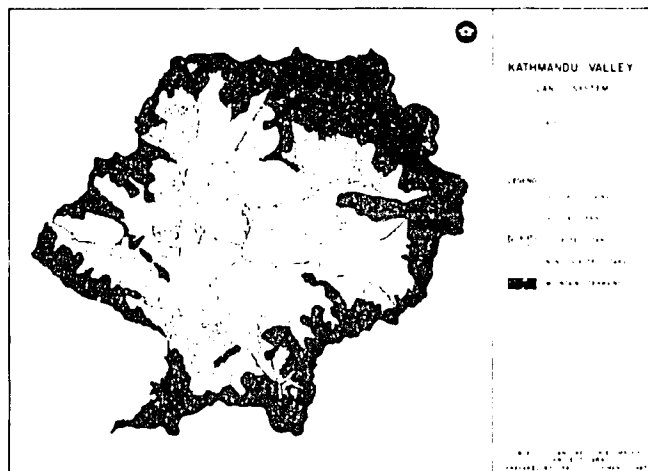
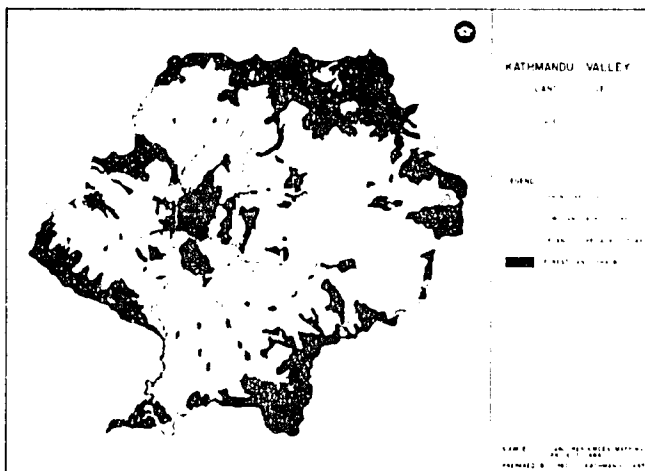
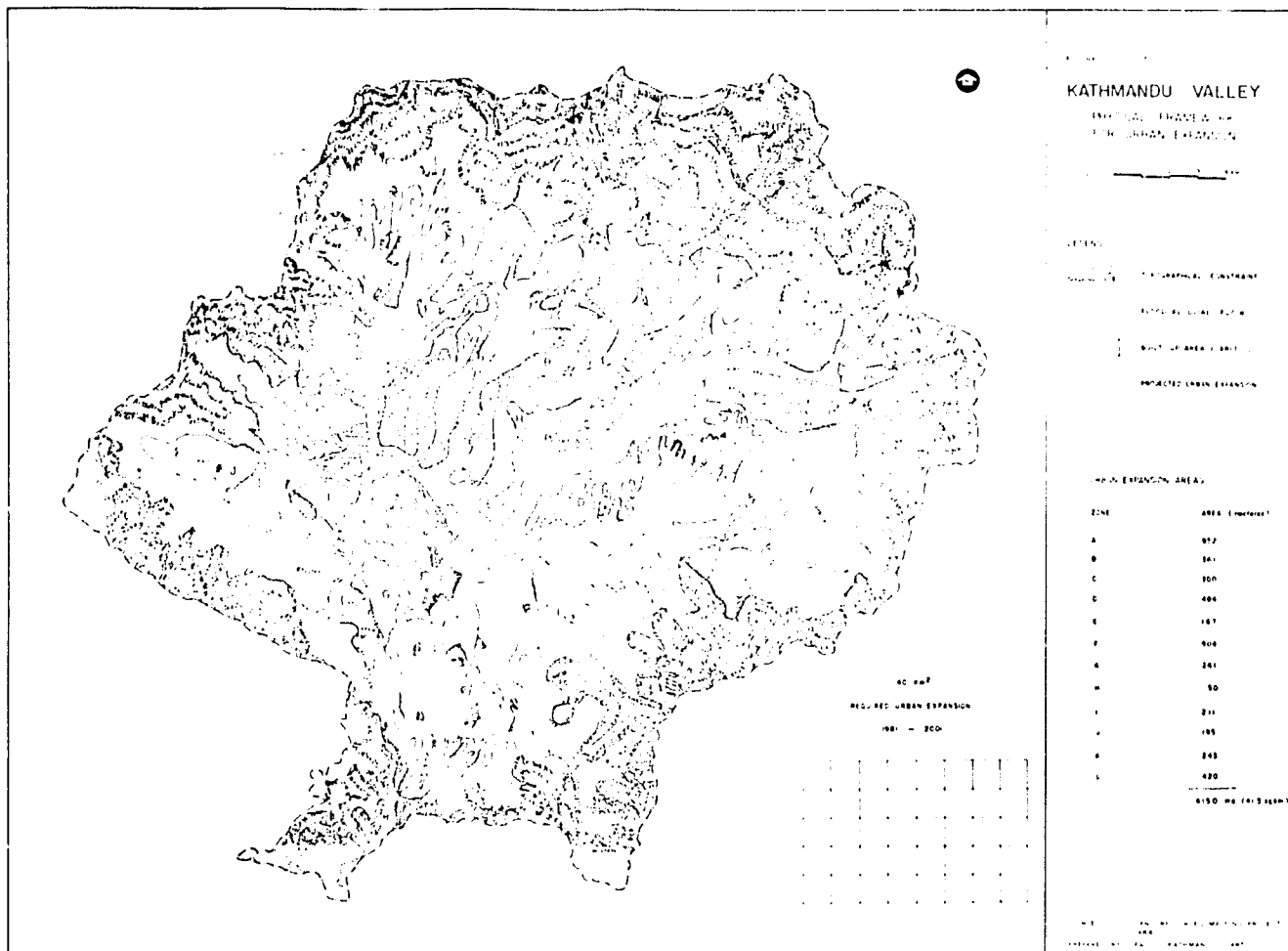
- Suggested guidelines for the urban component to Nepal's Seventh Five Year Plan and HMG/donor coordinated support for implementation of the plan. Activities included an IFC supported private housing finance company, UNDP-IBRD municipal development project support (finance, physical planning, and infrastructure investment programming), proposed ADB Kathmandu Valley Planning and Environmental Upgrading Study, GTZ Urban Project, etc. Institutional development support was also provided to ministries and departments involved with urban development.

- Numerous studies were prepared for the Ministry of Local Government and the Ministry of Works and Transport concerning Kathmandu, but with relevance for other towns as well. These included: A proposal for a Kathmandu Valley Development Authority, Kathmandu Valley Urban Land Policy Study and Symposium, Kathmandu Valley Draft Planning and Development Act, Analysis for Planning and Management Reforms in the Kathmandu Valley, Immediate Action Program for Planning Control in the Kathmandu Valley, A Preliminary Reconnaissance of Kathmandu's Transport Situation, Metropolitan Kathmandu Structure Plan.
- Several town panchayat related studies were undertaken. These included: Development Control and Enforcement Policies in Urban Planning Activities, a case study of infrastructure investment requirements for eight towns, and a training needs assessment for physical development.
- Housing finance and development support included a symposium, support to a private developer, and support in the establishment of a housing finance company. Also prepared was an evaluation of an existing housing project and preparation for a potential private-sector Housing Guaranty program in Nepal.

Management Support for Municipalities

This project is funded by the UNDP and supervised by the World Bank. The work involves planning and management support for all towns in Nepal. The project will also produce a preliminary investment program for all towns as well as actual infrastructure programs for approximately eight to ten towns.

Another component of the project, which AID and PADCO's urban policy advisor helped set up, deals with town resource mobilization. This component provides support for the government's decentralization effort, training, and central policy concerns in local resource mobilization and management.



Nepal Urban Development Assessment

In late December 1983, PADCO conducted an urban development assessment for Nepal which was jointly funded by the USAID Mission and Regional Housing and Urban Development Office/Bangkok. The assessment culminated in the presentation of the "Strategies for Urban Development" seminar of March 1984 which was jointly sponsored by USAID and the National Planning Commission. The seminar involved the participation of a broad, multi-disciplinary group.

The UDA and seminar were very successful and led to the posting of a long-term PADCO urban policy advisor to assist with the planning and implementation of the urban component to Nepal's Seventh Five Year Plan.

PADCO's experience with the UDA and seminar resulted in broad-based positioning for policy dialogue in the HMG.

Egypt

ASSIGNMENT: National Urban Policy Study
CLIENTS: Egyptian Ministry of Development
USAID
DATE: 1980-82

OBJECTIVES:

- Research and analyze Egypt's past and present urbanization patterns
- Formulate and evaluate alternative strategies for urban economic and physical development
- Recommend cost-effective physical and social policies to guide and manage urban growth in Egypt

ACTIVITIES:

Urban Economic Development

PADCO collected relevant economic data and developed an urban economic model for selecting among alternative urban investment strategies for creating urban employment. The model was developed as a policy tool for analyzing efficiency and equity concerns in allocating investment resources across Egypt's settlement system.

Review of Administrative and Institutional Structures

PADCO conducted a review of the existing administrative and institutional structures at relevant national, regional and local government levels to identify the division of responsibility and hierarchy for planning, urban policy making and urban development in Egypt. The experience and effects of administrative decentralization and organization of local government on the planning, implementation and control functions were also reviewed.

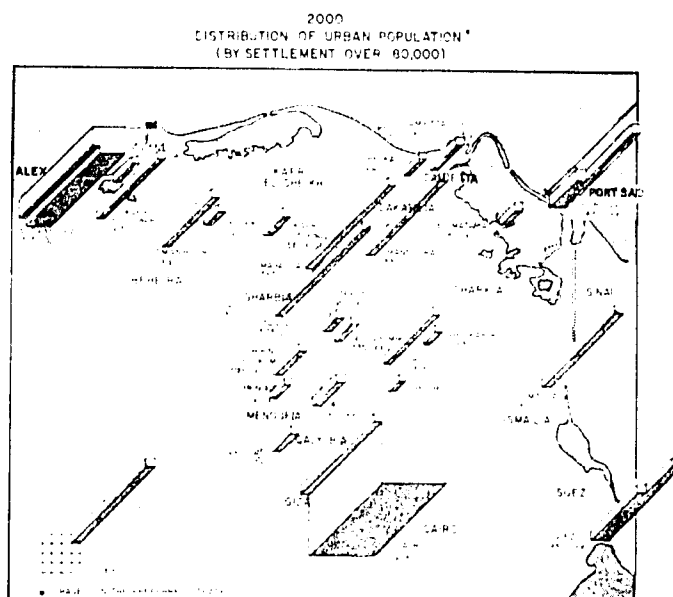
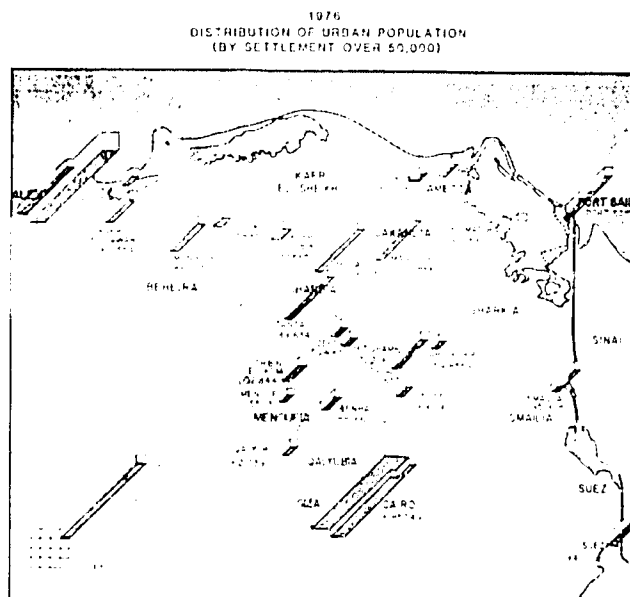
Review of Urban Development Regulations

PADCO reviewed the existing legislative means of regulating urban development in Egypt including restrictive and permissive guidelines, development incentives and provisions for special situations. The principal provisions of each category were compared with legislation prevailing in countries with conditions similar to those found in Egypt.

Review of Development Standards and Costs

The PADCO study team reviewed urban development standards, urban development costs and the financial mechanisms, terms and sources that have been used by both the public and private sectors to meet urban development costs. As part of this process, budgetary aspects and financial resources—including taxation powers at national and local levels and other methods of generating revenues—were reviewed.

LOWER EGYPT SETTLEMENT HIERARCHY



Preparation of Policy Plans and Programs

PADCO formulated and recommended specific policy plans and programs for the Ministries most directly involved in urban development. This was based on a review of stated national goals and objectives.

Concept Plans for Major Urban Settlements

PADCO carried out several specific tasks demonstrating ways to implement the National Urban Policy. These included concept plans for the major urban settlements of Cairo, Alexandria and Suez as well as illustrative development projects in two additional settlements. Concept and illustrative development planning is viewed as a unique PADCO service in identifying and addressing crucial development is-

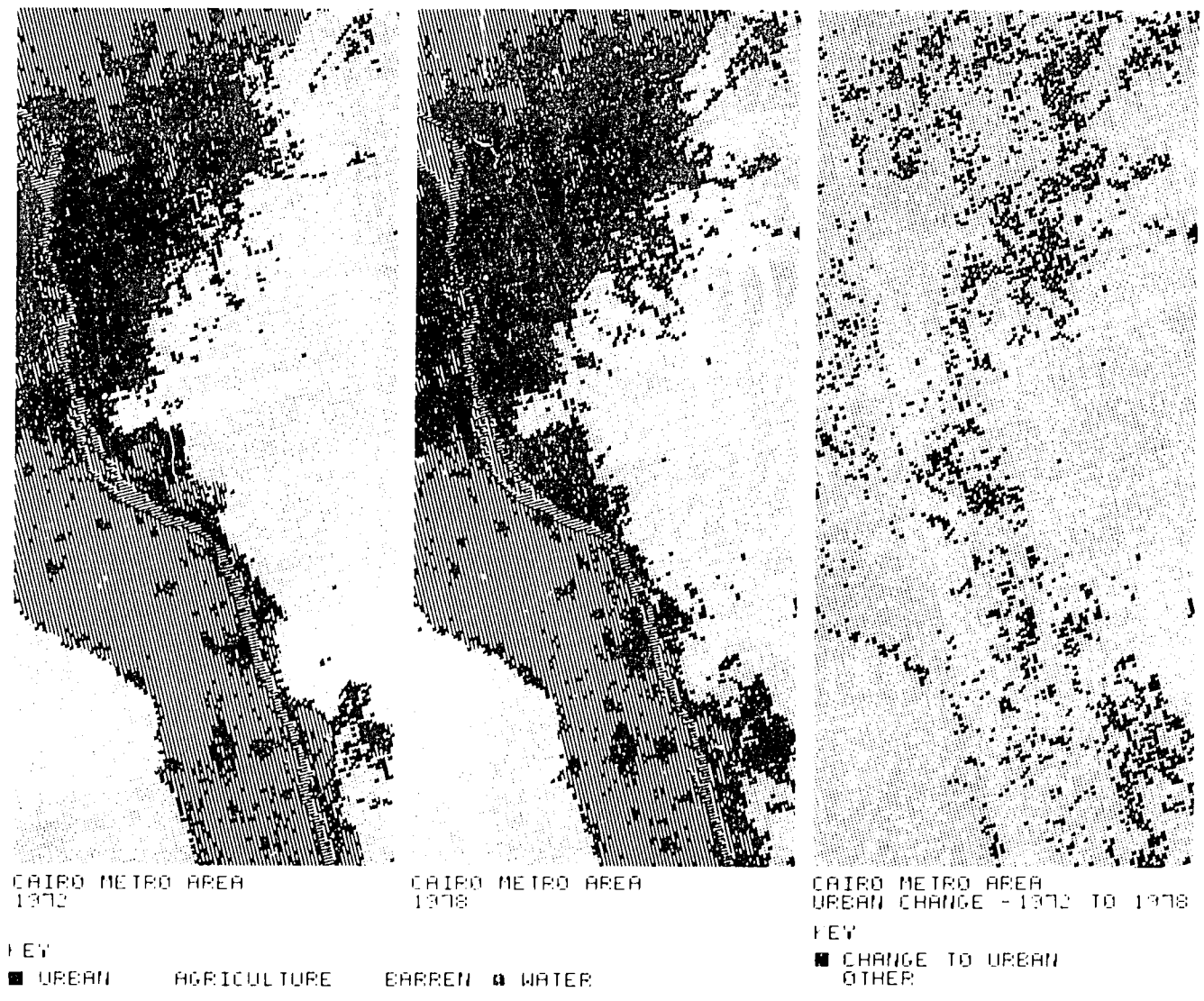
ssues without the necessity of carrying out a full-blown master plan.

Preparation of Urban Development Handbook

To assist local government officials in the development of overall policy and to introduce the principles of illustrative development planning, PADCO prepared an Urban Management Handbook.

Compilation of Urban Sector Data Base

The study team prepared a data base for the urban sector, published as the Urban Growth and Urban Data Report. This report compiles the most recent data in the sector in addition to the specific data generated by the policy study.



Thailand

ASSIGNMENT: Bangkok Land Management Study
CLIENTS: Government of Thailand
National Housing Authority of Thailand
Asian Development Bank
DATE: 1986-87

OBJECTIVES:

- Improve the performance of the Bangkok land market in supplying land for residential development for low- and moderate-income groups by the private and public sectors
- Increase the knowledge and understanding of the land market to widen the base for decision-making by the National Housing Authority regarding land acquisition and development in the Bangkok Metropolitan Region
- Explore possible new avenues for land development for housing given the existing political and economic conditions

ACTIVITIES:

Conducted Land Market Study

The PADCO team working with staff members of the National Housing Authority conducted a land market study of Bangkok. Data was assembled from aerial photos (1974 and 1984) and secondary sources for 360 sub-districts in a study area of approximately 5,069 square kilometers. Additional data was obtained from sample surveys of land parcels in fringe districts, current housing projects, recent home buyers, and private developers. A compilation of statistical data on slum lands was also completed.

Analyzed National Housing Authority Procedures and Projects

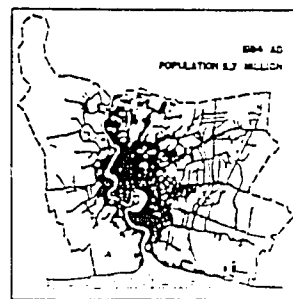
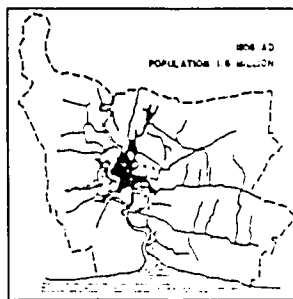
A detailed review of NHA land acquisition history and procedures was done to assess the efficiency of the process and identify bottlenecks and delays. The team also compiled cost data on the 14 NHA housing projects in Bangkok to determine the proportion of funds expended on land acquisition in comparison to private sector projects.

Reviewed Land Laws and Regulations

The PADCO team collected an inventory of laws and regulations pertaining to land and housing development and conducted interviews with public and private-sector representatives to ascertain the key legal issues facing the housing sector in Bangkok.

Established Housing Information Center

All the information, maps, aerial photos, secondary source materials and computerized files used for the study served as the base data for a permanent Housing Information Center.



Conducted Staff Training

The PADCO team assisted the NHA in the preparation of a Land Management Course for the staff of NHA and other government agencies involved with land acquisition and development. Team members helped obtain reading materials, structure the curriculum, organize lectures, and teach courses on specific topics. NHA staff were trained in the use of computers and data files of the study along with the normal on-the-job-training taking place during the preparation of the study.

Conducted Feasibility Study

The PADCO team did a feasibility study for developing land for housing projects in the northern corridor of the Bangkok Metropolitan area. The study demonstrates the marketability of a small-scale project to low- and moderate-income households. Based on the results of the feasibility study, the consultants recommended that the NHA should:

- Alter its approach to land acquisition from land banking to a project-development orientation
- Focus on smaller projects which can be developed and sold out in one to two years
- Decentralize its land and housing development operations so that each of seven development corridors is the focus of a separate housing development team
- Make better use of village headmen to determine the types of land parcels on the market
- Begin selling housing units before they are completed

Developed Illustrative Project Design

The preliminary design of a project in the northern development corridor was done to illustrate the feasibility of a project based on the recommendations of the study.

Nepal

ASSIGNMENT: Rapti Zone Integrated Rural Development Project

CLIENTS: Government of Nepal
USAID

DATE: 1980-87

OBJECTIVES:

- Assist the Government of Nepal in implementing an integrated rural development program in the Rapti Zone

ACTIVITIES:

Project Management

PADCO was the principal contractor for the implementation of the Rapti Zone Integrated Rural Development Project. This complex project was implemented over a period of six years in one of Nepal's poorest and undeveloped areas. PADCO employed 64 Nepali advisors and support staff and 19 long- and short-term expatriate advisors. In addition, PADCO managed a diverse program of technical support.

The scope of the Rapti project changed in several important ways over its execution. Most importantly, management became more focused on providing district level support in line with decentralization objectives. This was a very positive development and was reflected in the respective roles of the Nepali staff and the technical assistance team.

Provision of Technical Assistance

The main thrust of technical assistance provided by PADCO emphasized program planning and monitoring, rural works engineering, forestry, and cropping systems. In the early years, the project also emphasized financial management and procurement. In the latter years, technical assistance was diversified to include:

- Regional development and economic planning
- Support of numerous government training and communication activities in agriculture, forestry, construction management, project management systems
- Farming systems, agro forestry, community organization and local resource mobilization

PADCO found that an effective technical assistance effort must offer multi-faceted qualities. These include strong leadership and commitment, excellent management, professional ties at all levels of government, sensitivity to local issues and cultural differences, good inter-personal relations with staff and



Photography by Mark Fritzier

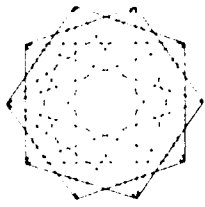
counterparts, recognizably good technical performance, and good documentation of technical support for an integrated technical assistance team.

Provision of District Institutional Development and Training

Specific training interventions included a strategy design, a needs assessment for training of trainers, two training-of-trainers courses, specific technical training, a management needs assessment for line agency personnel, and two rounds of project management systems training.

Integration of Local Staff into the Technical Assistance Team

The Rapti Project always had an important component of Nepali technical assistance which PADCO fully integrated into the technical assistance team. Over the life of the Integrated Rural Development Project, PADCO employed 25 Nepali long-term advisors, 22 Nepali short-term advisors, and 17 Nepali support staff. PADCO always strove to maintain good working relations with His Majesty's Government and the counterpart staff.



Training and Institutional Development

PADCO's Services

International donors have been active in human settlements training over the years, but the focus is changing from direct training to institutional support. Organizations that continue to be involved in training include the United Nations Center for Human Settlements, the World Bank's Economic Development Institute (EDI), UNESCO, the International Labor Organization, USAID, the regional development banks, and bilateral agencies.

Training is one of many tools to be used in development; it is not an end in itself. Training is valuable not only in building skills, but also in encouraging understanding and collaboration among people in different disciplines. PADCO supports the idea that international efforts should be directed primarily toward establishing local training capacity and training institutions. Local consulting services should be used as much as possible. Outside assistance should be designed:

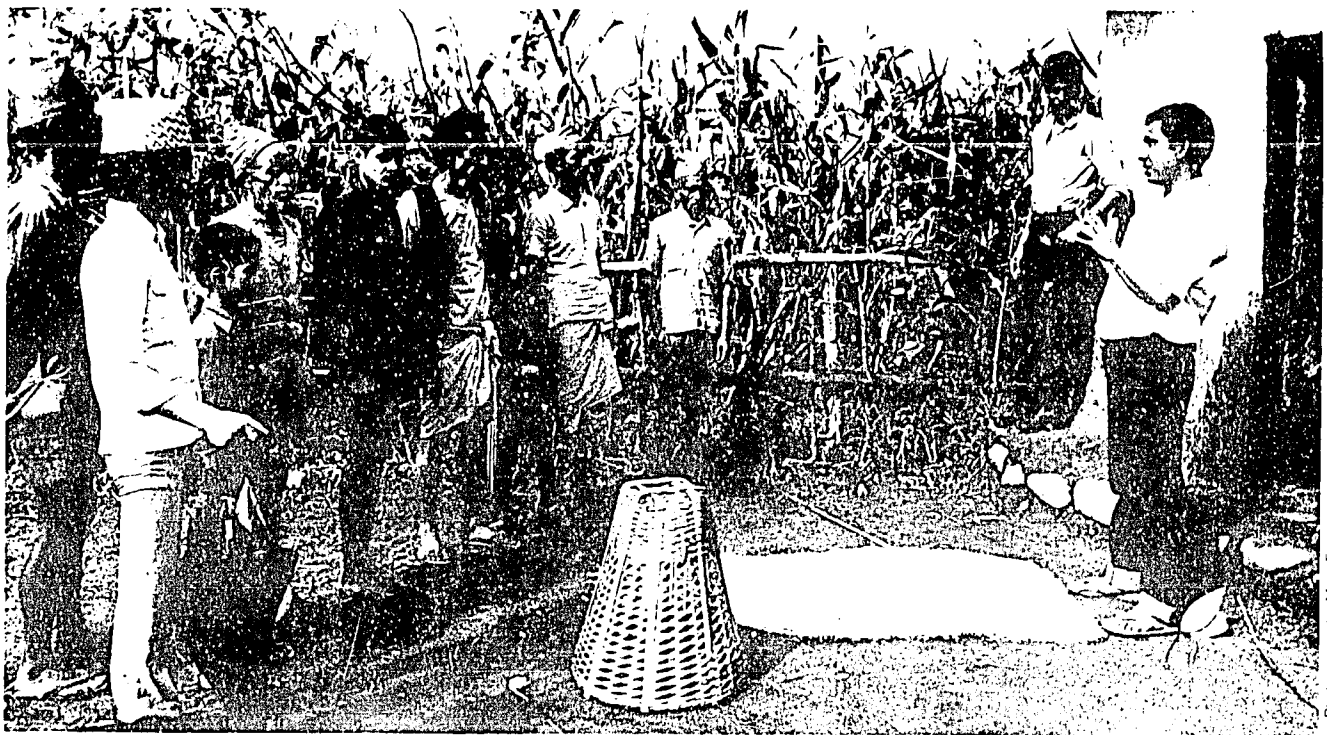
- To operate collaboratively with local institutions and individuals
- To be phased out as local capacity develops

Training programs should be designed for a variety of positions ranging from senior policymakers to junior staff and administrative personnel. Training must also incorporate the needs of different management scales: national, regional, and local. Both formal and informal training approaches are usually needed in institutional development. Finally, PADCO believes that most training should take place in-country. Overseas training is extremely expensive in terms of direct cost and work time foregone; it should be used selectively and only for the most productive purposes.



PADCO's technical specialists in planning, finance, and management undertake the design and implementation of measures to improve institutional performance. Key examples of PADCO's work in this area include the overhaul of housing finance institutions, the development of new information systems, and the reform of personnel systems and procedures.

PADCO offers the following training and institutional development services in support of international development:



Photography by Mark Fritzer

Training Needs Assessment

Review of the precise needs of different groups requiring training, and the tailoring of programs to meet needs in the most efficient and effective way.

In-Service Training

The inclusion of structured training programs within larger development programs or projects. This type of training should be task- or technique-specific. PADCO prefers to include this type of training in all its development projects.

Building Training Capacity and Institutions

Planning and organizing training systems, collaborating with existing local training institutions, training-of-trainers, and development of training materials.

Short Courses

Seminars and workshops on specific policy issues, skills and application of PADCO computer models.

Computerized Analysis

Computerized techniques and methodologies for the analysis of shelter and urban development policies, programs, and projects.

Management and Information Systems

Design of administrative systems, information systems, and other management structures for particular needs in organizations.

The following projects illustrate PADCO's experience in Training and Institutional Development.



Indonesia

ASSIGNMENT: Local Government Training II
CLIENTS: Government of Indonesia
Ministry of Home Affairs,
USAID
DATE: 1982-86

OBJECTIVES:

- Assist the Ministry of Home Affairs in implementing its National Training Strategy (the Strategy, proposed by PADCO under an earlier contract, was adopted by the Ministry of Home Affairs as the basis for bringing regional development planning and management training to officers and technicians throughout Indonesia)
- Develop regional planning and management capacity in the principal agencies which constitute the planning and management "teams" at the provincial, district and city levels
- Assist these agencies to perform more effectively their respective roles in policy formulation, planning, programming, budgeting, financing, monitoring and evaluation, and coordination
- Create an institutional framework for the planning and management of development to facilitate more widespread and active participation in making and implementing development decisions at the provincial and sub-provincial levels

ACTIVITIES:

Establish Central Training Agency

PADCO had a multi-disciplinary team of 10 long-term training advisors to assist the Government in establishing a functioning central agency in the Ministry of Local Government. This agency was responsible for planning and managing the total provincial/sub-provincial training effort and for the development of training curricula, training course designs, and training materials.

Establish Training-of-Trainers Program

The PADCO team assisted with the development of a functioning central training-of-trainers program and facility producing trained trainers in sufficient numbers to staff the central facility and the regional training centers.



Establish Regional Training Centers

Four centers were established over the life of the contract. Procedures were set up to inaugurate one additional center per year until a total of eight centers are fully operational.

Establish Relationships with Universities

The PADCO team helped set up operating arrangements whereby selected universities and institutions of higher learning are involved in regional planning/management functions and training.

Conduct Training Courses

During the four years of the project, almost 4,000 officials took courses at the central agency or regional centers. These officials spent 150,000 trainee-days on the courses.

Develop Training Materials and Methods

Extensive training materials for a core training program in regional development were developed by the PADCO team. This nine-month course consisted of three months of classroom training and six months of supervised on-the-job training. A parallel short course in regional development was also designed for those unable to take the comprehensive course. In addition, a series of specialized training courses of from six weeks to six months on specific topics were designed.

Pakistan

ASSIGNMENT: Strengthening the Karachi Master Planning Process (1986-2000)
CLIENTS: Karachi Development Authority (KDA), UNCHS
DATE: 1988-89

This project incorporates the latest technologies in satellite imagery and data processing into an urban information system and comprehensive urban planning model for the purpose of weighing and modifying planning alternatives.

OBJECTIVES:

- Assist the KDA to improve the efficiency of urban growth and the delivery of urban services and shelter for the 7 million existing and the 16.6 million projected inhabitants of Karachi, Pakistan
- Develop a model to assist the Karachi Development Authority to evaluate the costs and impact of alternative urban plans, investment programs, and means for resource mobilization and plan implementation
- Development of new growth management tools for plan implementation involving the Authority, the Municipal Corporation, and other key agencies
- Develop an urban information system for continuous updating of relevant data and development plan modifications
- Train appropriate KDA staff members in the use of various models, technological, and information/GIS mapping systems: PADCO technical support to the KDA will be limited expressly to encourage strong counterpart participation in the project

ACTIVITIES:

Spatial and Sectorial Studies

Spatial and sectorial studies will serve to evaluate developments since the 1974 Plan (also carried out with PADCO assistance). The studies will also serve to establish the data base needed in later modeling phases of the project and preparation of long-term plan alternatives. Mapping of these data will be done on digitized maps based on recent satellite photos.

Development of an Urban Planning and Management Model

Research and evaluation of existing computer applications for urban planning and management (including previous PADCO Models) will be done to deter-



mine their degree of usefulness for the Karachi Master Planning Process. The ultimate design of the Model will be tailored to KDA requirements but should have broad applications elsewhere, as well. The Model will consist of five principal modules that employ the geo-coded data.

Scenario Development

Participation and training of KDA staff will be maximized in this practical phase of the Model and data base. At this point, the geo-data base and the Urban Planning and Management Model will be linked within a more classic planning framework. For example, an analysis of Karachi growth constraints and opportunities will be conducted to assess growth trends and viable plan options.

Implications of alternative growth scenarios will analyze the total capital and operating costs of the scenario, the demographic trends, and the municipal finance implications including the basic affordability of the scenario to households and Karachi as a whole.

The Karachi Development Plan will be designed to guide action in the short and medium term within a potential long-range framework. The use of personal computers and the Model will enable the staff of the KDA to monitor the implementation of the Plan and to respond to changes in Karachi's development.

Jamaica

ASSIGNMENT: Long-Term Shelter Sector Support and Technical Assistance

CLIENTS: Government of Jamaica
Ministry of Construction (Housing)
USAID, Office of Housing and Urban Programs

DATE: 1983-88

OBJECTIVES:

- Assist the Government of Jamaica in implementing the National Housing Policy (prepared with PADCO assistance) and in improving the overall performance in the shelter sector
- Participate in the training of Jamaican counterparts and in the design and implementation of in-service and short-term training for shelter sector professionals
- Assist in project planning, implementation, and management
- Expand the Policy Planning Secretariat in the Ministry of Construction (Housing) and assist in the implementation of Government's administrative reform program

ACTIVITIES:

Project Planning and Design

The PADCO advisors developed site selection criteria and design standards to guide the programming and development of low-income shelter projects. Affordability criteria were established and technical staff trained to evaluate projects.

Project Management

A Policy and Planning Secretariat was established in the Ministry of Construction (Housing) with the assistance of the PADCO advisors. A computerized reporting system was implemented and the staff trained to manage the system. This, along with regular project managers meetings, improved the monitoring of project implementation by the Ministry.

Administrative Reform

The Secretariat also coordinates the restructuring of the divisions and programs of the Ministry under the Government's administrative reform program. This program includes short-term trainers and advisors to work with and upgrade staff skills.

Budgeting and Financial Analysis

PADCO developed computerized models for monitoring the expenditures of the Ministry and projecting future cash flow needs. Assistance was also provided



in the planning and mobilization of housing finance with funds coming from several sources including the GOJ budget, the National Housing Trust, and USAID.

Implementation of the National Housing Policy

The PADCO team served in an advisory capacity to Government in the rationalization of the housing sector as outlined in the National Housing Plan.

Training

In addition to on-the-job training given by PADCO advisors, formal training courses were given to other housing professionals.

Indonesia

ASSIGNMENT: Technical Consulting Services to PERUM PERUMNAS

CLIENTS: Government of Indonesia
National Urban Development Corporation
The World Bank

DATE: 1987-88

OBJECTIVES:

- Provide technical support and advice to PERUM PERUMNAS senior management in implementing institutional reforms
- Develop a manpower plan and personnel policies which will enable PERUM PERUMNAS to attract and retain the best available staff
- Provide management and policy advice to develop operational policies, inter-agency agreements, management information systems, and marketing and sales strategies, as well as to improve the efficiency of branch offices
- Provide project monitoring and construction management advice to evaluate production efficiency, develop production monitoring systems, and assist the newly established quantity surveying division
- Design and implement an electronic data processing system to provide the management of PERUM PERUMNAS with management information and to automate existing manual operations

ACTIVITIES:

Development of a Manpower Plan

PADCO, in association with P.T. REDECON and P.T. DACREA, reviewed the objectives, program and strategy as well as the current organizational structure, skills and staffing requirements. Based on this information, organizational and staffing gaps are being identified and detailed recruitment and training needs established.

Formulation of Personnel and Compensation Policies

The PADCO consultants are developing recruitment and induction policies and procedures along with job grade structures for implementation at PERUM PERUMNAS. Based on information from a survey of compensation policies of public and private developers, competitive compensation packages are being designed. A performance appraisal system and computerized personnel database are being implemented to facilitate manpower and career planning.

Provision of Management Advisory Services

Assistance is being provided to develop programs and operational policies and systems to improve the performance of PERUM PERUMNAS' Jakarta and the branch offices. The team is reviewing these offices' financial procedures to make recommendations regarding the management of the corporation's assets and liabilities, and to propose budget alternatives for future programs. Assistance is also provided to develop inter-agency agreements.

Review of Acquisition and Marketing Procedures

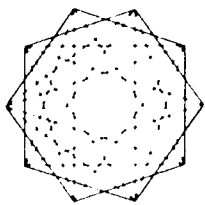
The current procedures of PERUM PERUMNAS were reviewed to develop strategies for land acquisition and financing and for sales and marketing of completed projects. Assistance is also provided in the preparation of market demand studies and consumer preference surveys.

Project Monitoring and Construction Management Assistance

After a review of existing monitoring systems, the PADCO team is designing revised systems to increase operational efficiency and provide performance standards. Assistance is also being provided with the formation and training of a quantity surveying, estimating and costing unit.

Establish Electronic Data Processing System

PADCO is providing assistance in the design, development and implementation of a comprehensive electronic data processing system tailored to the needs of PERUM PERUMNAS. Assistance is also provided with the selection and procurement of hardware and the training of staff in the use of the system.



Housing

PADCO's Services

In the housing sector, PADCO emphasizes the development of programs for all segments of urban populations, particularly the urban poor, and relates programs explicitly to the limited resources available.

Through the execution of short- and long-term contracts, PADCO has acquired a great depth of experience in six categories of expertise: housing economics; shelter policy, planning and programming; housing market analysis; housing finance; social and economic components in support of shelter sector assistance; and housing project planning and supervision of implementation. (Disaster relief and reconstruction in housing are discussed in detail in a later section.) Chart III illustrates the regions and countries for each category of PADCO experience.

Housing Economics

Housing economics has been a principal component of PADCO's major urban planning and housing projects. In the course of its work, PADCO has dealt with the following issues:

- Effect of housing expenditures on the total economy
- Impact of foreign borrowing for housing on a country's economy
- Economic appraisal of housing programs
- Complementary investments for housing (infrastructure, land)
- Employment effects of shelter assistance programs
- Economic analysis of the construction or building supply industries

Housing Policy, Planning and Programming

PADCO believes that no outside consulting group should draft a country's national housing policy. PADCO, therefore, provides assistance to host country professionals in outlining work programs, establishing the methodology and identifying areas in which objectives should be established. PADCO can participate in the dialogue essential to the formulation of housing policy, plans, and programs:

- Housing sector placed within the overall economic context of a developing country

- Basic housing goals
- Roles of suppliers of housing and related inputs
- Role of housing users by income or other target group characteristics
- Housing delivery systems
- Mobilization of resources to finance shelter production

PADCO can also contribute to the establishment of:

- Guidelines for national housing plans
- Housing programs
- Procedures for evaluation of progress toward achieving a national housing policy

PADCO has undertaken numerous shelter sector assessments around the world for AID and the World Bank. Many of these have involved housing policy discussions and development of new policy agendas.

Housing Market Analysis

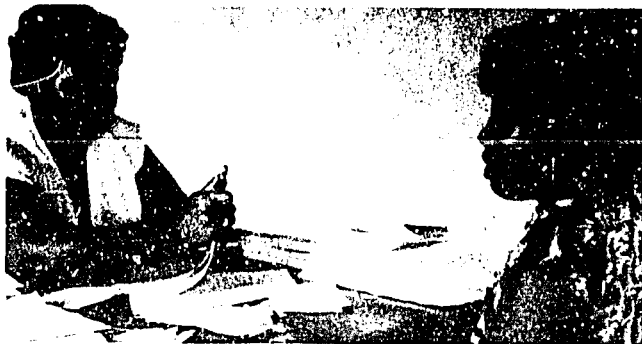
PADCO is sensitive to housing preference expressed by local populations, the desire for homeownership, and the proportion of capital available to be spent on housing. PADCO has extensive experience in the analysis of supply and demand for housing. Its work covers:

- Effective demand studies
- Affordability analyses
- Market surveys
- Housing needs assessments
- Supply estimates
- Level and effect of subsidies

PADCO has analyzed housing markets at the national, regional, and local levels.

Housing Finance

PADCO is aware of the growing need to supplement conventional housing finance mechanisms with more innovative techniques to achieve a broader impact, especially for the urban poor. PADCO staff has experience with the formulation of a wide range of housing finance programs for housing finance institutions of all types throughout the developing world.



PADCO's services include the following aspects of housing finance:

- Resource mobilization
- Savings and loan operations
- Institutional management and operations
- Portfolio management
- Housing finance regulatory agencies
- Maintenance of value and reduction of subsidies
- Information systems
- Housing finance legislation
- Relation of housing finance to the national and international capital markets

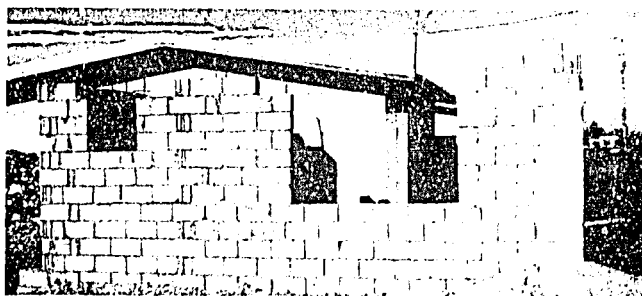
Social and Economic Components in Support of Shelter Sector Assistance Programs

Traditional social and economic development programs (such as adult literacy training, vocational training, community development, and job generation) often prove to be ineffective because of their lack of focus on specific target groups of low-income households. An integrated approach relating social and economic components as part of an overall settlement development project is often necessary.

PADCO's previous assignments have covered the following basic options, strategies and issues of concern:

- Methodologies to assist host country authorities in the design and implementation of social and physical infrastructure to accompany shelter programs for lower-income neighborhoods
- Potential employment effects of shelter sector programs in terms of skill training, loans for small businesses, technical assistance for small enterprises with neighborhood resident employees
- Participation of women
- Informal sector needs
- Community participation in planning and operation of programs

PADCO has been active in analyzing the role of the informal sector in shelter. As a basic part of most assignments, PADCO teams attempt to identify and



understand the informal process whereby the urban poor obtain shelter outside the formal construction and finance systems. PADCO believes that, through the analysis of informal shelter, practical ideas can be developed to facilitate public support for realistic and practical shelter solutions.

Housing Project Planning and Supervision of Implementation

PADCO is able to assist local housing agencies with the technical design of realistic shelter projects and continue this support through the bidding and construction phases. PADCO's assistance can also be extended to participant selection, occupation of the plots, and construction of housing units by residents. These activities are usually part of long-term institutional development projects as discussed in the previous section.

Support of Private-Sector Developers and Finance Companies

Since government-funded programs can meet only a small percentage of the housing need, PADCO works with private developers and lending institutions to enter the lower-income housing market and thus increase the supply of affordable housing. PADCO works with government agencies to remove barriers and to create incentives for private-sector involvement in the production of shelter. Recognizing the importance of the informal sector in housing production in developing countries, PADCO assists clients to better understand the informal sector and to formulate strategies to facilitate and improve its activities.

Examples of PADCO's experience in housing are shown on the following pages.

Chart III

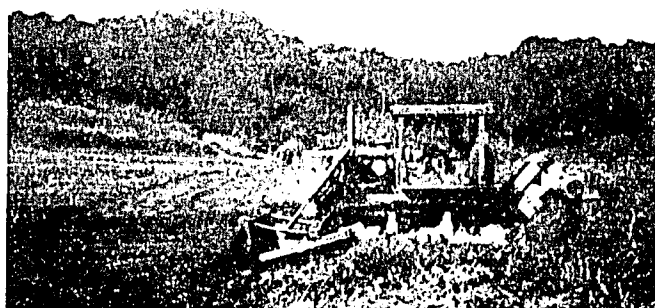
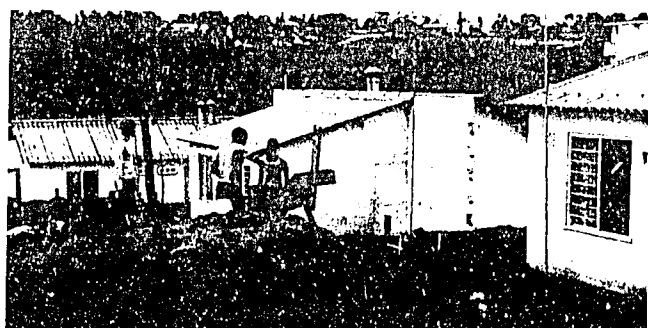
PADCO's Worldwide Experience in Housing

	Housing Economics	Housing Policy, Planning and Programming	Housing Market Analysis	Housing Finance	Social and Economic Components	Project Planning and Imple- mentation	Private Sector Support
AFRICA							
African Development Bank	■	■		■			
Cameroon	■	■	■	■	■	■	
East African Community	■	■	■	■			
Ghana	■	■	■	■			
Cote d'Ivoire	■	■		■		■	
Kenya	■	■	■	■			■
Liberia	■	■		■			
Morocco	■	■	■	■		■	■
Mauritius	■	■	■	■	■		
Tanzania	■	■	■	■	■		
Togo	■	■	■	■	■	■	
Tunisia	■	■	■	■	■	■	■
Uganda	■	■	■				
Zimbabwe	■	■	■	■			
ASIA							
Bhutan	■	■	■		■		
India	■	■	■				
Indonesia	■	■	■	■	■		
Korea	■	■	■	■	■		
Pakistan	■	■	■	■	■		
Philippines	■	■	■	■	■		
Sri Lanka	■	■	■				
Taiwan	■	■					
Thailand	■	■		■	■	■	
LATIN AMERICA AND CARIBBEAN							
Barbados	■	■					
Bolivia				■			■
Brazil	■	■	■				
Chile	■		■				
Colombia		■		■			
Costa Rica	■	■	■				
Dominican Republic	■	■	■	■	■		
Ecuador	■	■	■	■			■
El Salvador	■	■	■	■	■		
Guatemala	■	■		■			
Haiti	■	■	■	■	■	■	■
Honduras	■	■	■	■	■		
Jamaica	■	■	■	■		■	■
Nicaragua	■	■	■	■	■		
Panama	■		■		■		■
Peru		■			■		
St. Lucia		■					

	Housing Economics	Housing Policy, Planning and Programming	Housing Market Analysis	Housing Finance	Social and Economic Components	Project Planning and Imple- mentation	Private Sector Support
MIDDLE EAST							
Egypt	■	■	■	■	■		
Jordan	■	■	■	■	■		■
Kuwait	■						
Syria	■	■	■	■	■		
Turkey	■		■	■			
Yemen Arab Republic	■	■	■	■	■		
OTHER							
Canada	■	■	■	■			
Portugal		■		■			
Spain		■					



Photography by Mark Frutiger



Jordan

ASSIGNMENT: National Housing Strategy
CLIENTS: Hashemite Kingdom of Jordan
Ministry of Planning
USAID, Office of Housing and Urban Programs
DATE: 1986-87

OBJECTIVES:

- Help the Ministry of Planning to establish a Shelter Unit capable of implementing housing policy and to prepare sectoral housing plans
- Participate in staff training for the Shelter Unit in collaboration with local universities and training institutions
- Assist the Shelter Unit to formulate a comprehensive strategy for the housing sector which encompasses the supply and financing of shelter

ACTIVITIES:

Preparation of National Housing Strategy

PADCO (in association with the Urban Institute and USL International) provided assistance to the Shelter Unit in the preparation of alternative strategies in response to housing needs and available resources. A final National Housing Strategy was formulated by government based on these strategies.

Preparation of Data Base

Numerous studies were conducted to establish a sound data base for the elaboration of the strategy. These included studies of housing vacancies, rural housing, and residential land to provide an accurate understanding of the existing housing situation.

Execution of Field Surveys

Research included the execution of several field surveys of which the largest was the National Housing Survey. In addition, a Private Sector Housing Suppliers Survey, a Rural Housing Case Studies Survey, a Land Prices Survey, and a Real Estate Agents Survey were carried out.

Review of Housing Delivery System

To understand the functioning of the housing delivery system in Jordan, PADCO conducted a detailed study of this area with special studies of private housing suppliers, construction costs and technologies, and housing finance systems.

Study of Housing Needs and Investment

Using a computerized model, a housing needs assessment was done by the PADCO team. This provided projections of needs and required investment levels for a 20-year period.



Study of Housing Affordability and Subsidy

Based on data from other studies, PADCO was able to review the affordability of housing solutions to low-income families and to determine the level of subsidy required for different options. This was done for both housing units and residential land.

Establishment of Shelter Unit

PADCO assisted the Ministry of Planning to set up a Shelter Unit to work with the project team on the above studies, and to continue the activities at the completion of the project.

Implementation of Training Program

Training activities were an important part of the project and comprised a training needs assessment of the shelter sector as well as formal seminars/workshops and on-the-job training of Shelter Unit and other Government staff.

Panama

ASSIGNMENT: Methodologies for Preparation of Low-Income Shelter Projects

CLIENTS: Ministry of Housing (MIVI)
United Nations Development Program (UNDP)

DATE: 1987

OBJECTIVES:

- Develop appropriate methodologies and techniques for the preparation of low-income shelter projects in the areas of socioeconomic analysis, project planning and design, and analysis of project costs
- Introduce these methodologies into the Ministry's on-going project design cycle and train counterpart staff in their use

ACTIVITIES:

Socioeconomic Analysis

Develop methodologies for the socioeconomic analysis of alternative regional project sites, prospective target groups and proposed low-income shelter projects.

Working with a team of MIVI economists and sociologists involved in on-going project development in the province of Chiriqui, PADCO's economist developed a series of methodologies and analytical procedures in the following areas:

- Analysis of principal demographic, housing and household income indicators at the provincial level in order to identify the basic parameters for the definition and location of low-income shelter projects
- Design and application of socioeconomic surveys to measure local housing demand, preference and market conditions
- Define quantitatively the effective demand for specific shelter solutions and the scale and composition of specific projects
- Determine framework and data needs for carrying out project economic feasibility studies

Project Planning and Design

Design methodological approaches to assist MIVI in the physical planning and design of low-income shelter projects.

PADCO's urban planner worked with the Urban Development and Engineering-Architecture sections to review and analyze current MIVI practice in the planning and design of shelter projects. PADCO made use of its PADCO/Bertaud Model in conjunction with hypothetical case studies and actual projects prepared



for international and bilateral financing to highlight preferred approaches in the following areas of project identification and design:

- Formulate criteria for the selection of prospective project sites
- Define impact of proposed projects on surrounding areas (capacity of infrastructure and community services, access to sources of employment)
- Analysis of environmental impact
- Design of cost efficient site plans and infrastructure networks for sites and services projects
- Analyze impact and recommend changes in existing development norms and standards to reduce the cost of low-income shelter projects

Cost Analysis

Define and analyze cost components of MIVI's low-income projects to identify areas and institute changes required to reduce costs.

PADCO's cost engineer worked with MIVI engineers and architects to review cost estimating procedures and design practices in on-going projects in order to identify areas of potential cost reduction. The integrated team carried out the following analyses:

- Define impact of principal cost components of MIVI projects (labor, materials, indirect costs) and evaluate variations in materials and labor costs over last five years
- Evaluate MIVI's current method of estimating project costs on basis of unit prices
- Review and recommend changes in current design practice for infrastructure components of sites and services projects in order to reduce costs
- Develop computer program for monitoring project financial management

Morocco

ASSIGNMENT: Housing Policy Advisor
CLIENTS: Government of Morocco
Ministry of Housing and Regional Development
USAID, Office of Housing and Urban Programs
DATE: 1981-83

OBJECTIVES:

- Improve the administrative capacity of the Ministry of Housing to plan and implement housing projects
- Implement changes in policy and procedures to improve the availability of shelter to the urban poor

ACTIVITIES:

Assistance on Policy Issues

The PADCO consultant provided direction and technical assistance to the Ministry of Housing on policy issues. Studies were undertaken on previous Moroccan housing experience to identify housing policy issues and problems. Recommendations were developed for future shelter programs.

Study of Housing Standards and Affordability

A paper was prepared to look at the design standards used in Morocco and their effect on affordability to low-income households. The paper also explained the methodology of the PADCO/Bertaud Affordability Model and how it could be applied manually as well as with a computer.

Study of Housing Finance

The housing finance study conducted by PADCO emphasized the need to reduce interest subsidies in Morocco and made recommendations for improved cost recovery procedures.

Developed Project Implementation, Monitoring and Evaluation Procedures

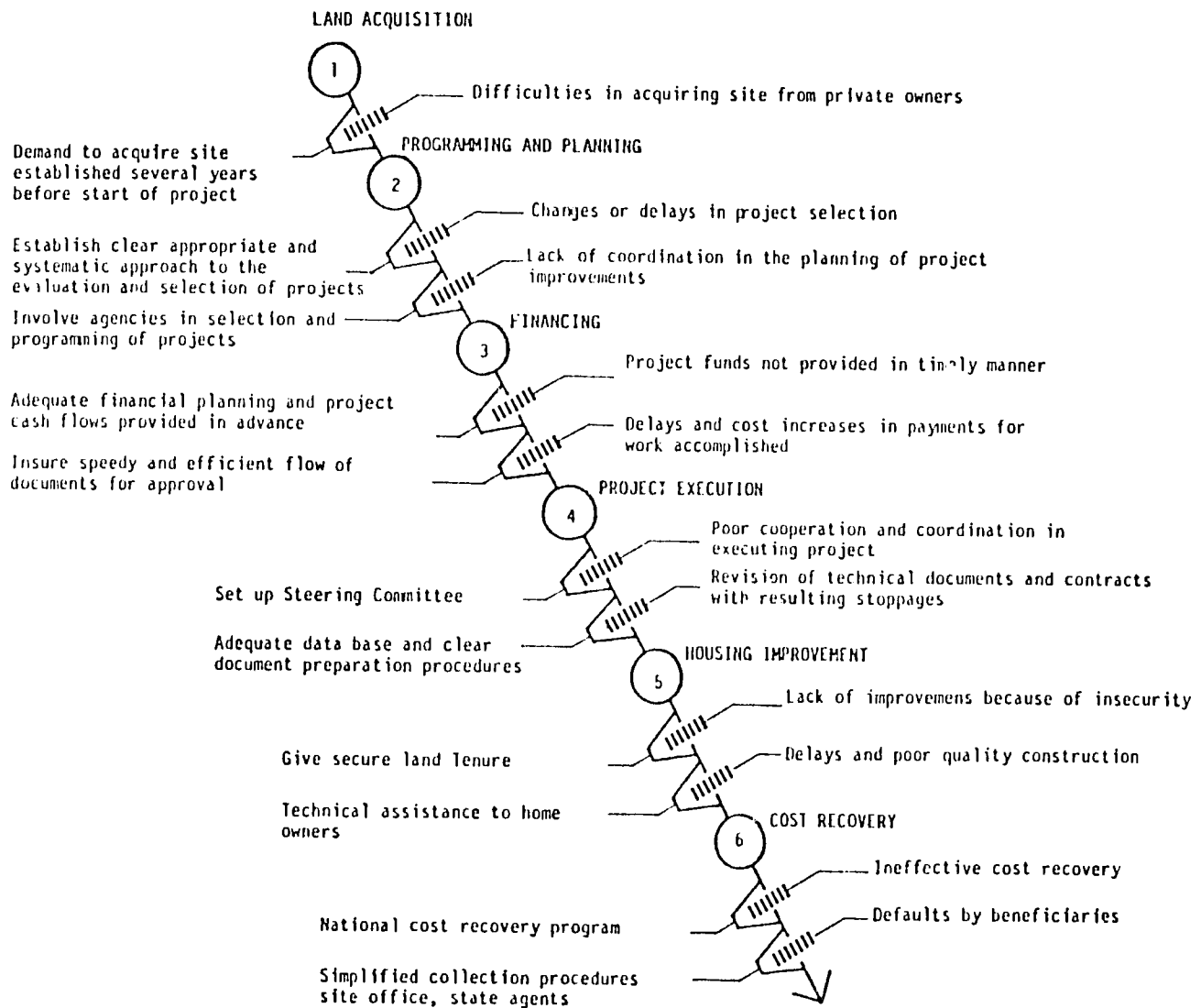
Based on a review of existing procedures, the PADCO advisor recommended modifications to allow for more efficient project implementation and monitoring that would be compatible with procedures used by the international funding agencies. The report included staffing plans and project management proposals for regional offices involved in project implementation.



Conducted Staff Training

In addition to the on-the-job training conducted by the PADCO advisor, seminars and short courses were conducted on such topics as project design and affordability analysis using the PADCO/Bertaud Model, project implementation and monitoring, and upgrading of squatter settlements.

POTENTIAL PROJECT BOTTLENECKS AND MEASURES TO EXPEDITE PROJECT IMPLEMENTATION

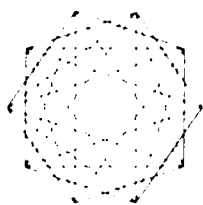


Prepared Handbook for Upgrading of Marginal Neighborhoods

The handbook prepared by PADCO was divided into two sections. The first section was a review of upgrading activities and projects being done by the local offices (regional offices of the Ministry of Housing and Regional Development). The original scope of the review was on the Government-sponsored program to upgrade small- and medium-sized spontaneous developments. It was found, however, that there was a number of innovative approaches to upgrading in some of the delegations which were not generally known in the country. This led to an expansion of the

scope of the review to include upgrading of: urban slums, urban clandestine neighborhoods, and rural commercial/administrative centers. Projects of each type were well documented along with statistical data on projects in all sections of the country.

The second section of the Handbook provided step-by-step guidelines for the identification, design, implementation, and marketing of upgrading projects. Seminars were conducted at the regional offices to familiarize staff with concepts and procedures used in the planning of new upgrading projects.



Disaster Relief and Preparedness

PADCO's Services

Many of the developing countries are situated in areas that experience cyclones, hurricanes, and earthquakes. PADCO believes that government officials should become increasingly aware of the types of planning guidelines and measures which should be used to minimize loss from future disasters.

PADCO provides assistance to governments for the improvement of settlement planning in disaster-prone areas, and for the improved design and construction of individual structures. In addition, recognizing that planning for disaster reconstruction is a related but distinct task from planning for disaster relief, PADCO makes recommendations to improve immediate pre-disaster preparation and planning for post-disaster relief.

Preliminary Investigation and Analysis

PADCO believes that the principal areas of risk must first be identified and classified as the basis for the design of specialized recommendations. PADCO explores the events just prior to previous disasters to ascertain what actions were taken and why warnings were not more fully heeded. PADCO also reviews the events after the disaster and the adequacy of disaster relief preparedness.

Analysis of Existing Adequacy

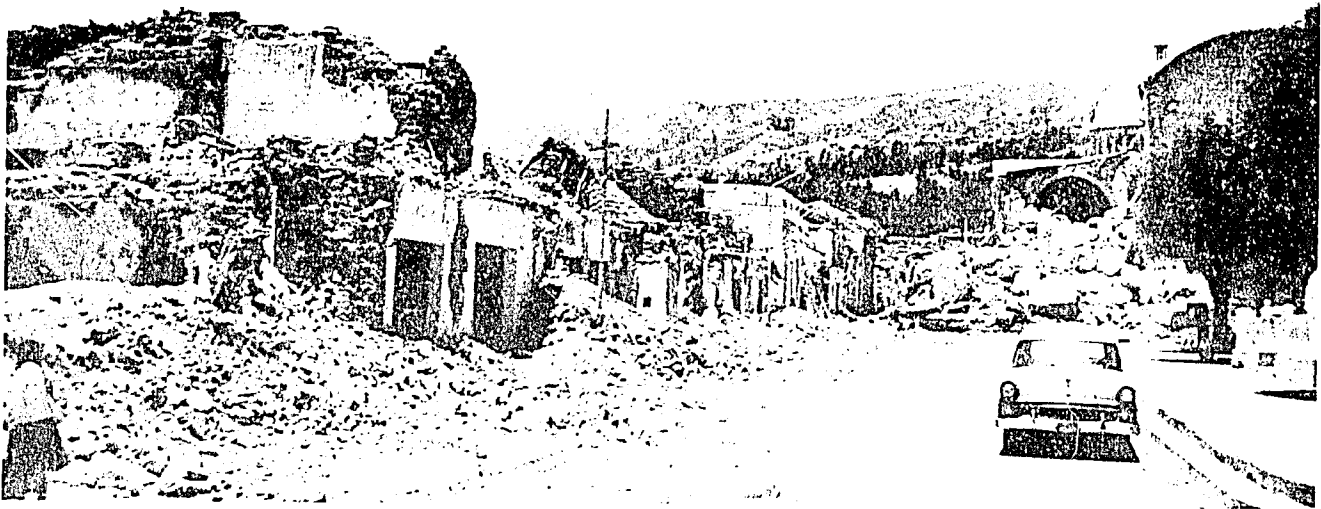
PADCO undertakes an analysis of the adequacy of existing construction, planning, and administration. Feasible improvements in settlement planning can be identified based on the typology of risks. PADCO can assist in prioritizing design improvements based on the sequence of building failure and the cost-effectiveness of each potential solution.

PADCO also assesses the need for improved building, planning and engineering regulations. This will include existing regulations for various types of structures such as public buildings and housing. PADCO will also assess the local building materials industry to determine whether additional types of materials will be necessary for storm resistant construction.

PADCO believes that it is especially important to assess the effectiveness of the administration of planning and building regulations. Success in applying any new or improved regulations will depend largely on institutional capacity. The implementation of new construction techniques or regulations for low-income housing will also depend on the effectiveness of local administration. It is especially necessary to consider the most effective means of communicating new techniques to the low-income populations.

Preparation of Alternative Reconstruction and Relief Strategies

At the conclusion of investigation and analysis, PADCO prepares with government officials alternative strategies for permanent reconstruction to be considered by the government. PADCO presents recommendations for improved pre-disaster precautions for national, provincial, and local level action to minimize damage and loss of life. These might include temporary building reinforcement, storing supplies, special preparation of public services and industry, and the improvement of early warning systems. Proposals are also developed to improve preparedness for post-disaster relief. Recommendations are made for improving the coordination of relief efforts such as food distribution, medical assistance, and emergency shelter.

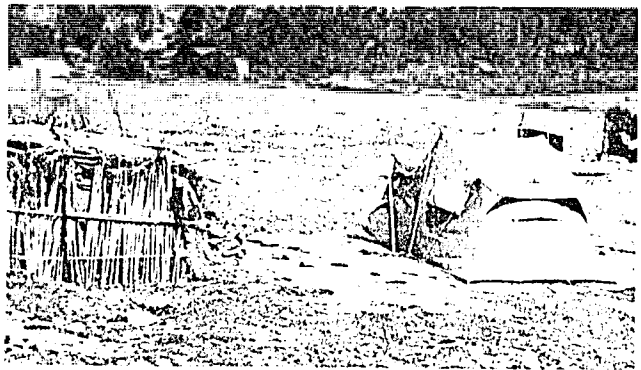


Preparation of Detailed Proposals

Based on the government's consideration of the alternative strategies for permanent reconstruction, PADCO develops in detail the final option selected. This includes the identification of preliminary planning guidelines for the most risk-prone areas. Suggestions are made for both civil engineering and building precautions for the principal types of risk areas. If appropriate, recommendations may also be made for the production of new building materials required for storm-resistant construction.

Suggestions are also finalized for the administration of the permanent reconstruction program at the national, provincial, community and household levels. These include methods of teaching disaster-resistant construction techniques to the general public.

PADCO develops final recommendations for pre- and post-disaster precautions based on government reaction to the initial presentations. If appropriate,



PADCO discusses with counterpart agencies the development of training programs that teach disaster preparedness techniques to both government officials and to the general public.

Examples follow of PADCO experience in disaster relief and preparedness.

Sri Lanka

ASSIGNMENT: Cyclone Preparedness and Reconstruction
CLIENTS: Government of Sri Lanka
Ministry of Local Government, Housing and Construction
United Nations Development Program (UNDP)
DATE: 1979-83

OBJECTIVES:

- Following the November 1978 cyclone, PADCO was asked to conduct a study to define the cyclone prone areas in Sri Lanka
- Provide appropriate plans or planning guidelines for areas to be reconstructed following the November storm and for new or expanding settlements within cyclone prone areas
- Specify construction systems and site selection criteria for important building, communication and transportation facilities within the cyclone prone areas
- Provide a checklist of pre-storm procedures for coastal and inland areas to be followed when storm warnings are received
- Estimate the type of immediate post-storm relief action that might be required in the case of future cyclones

ACTIVITIES:

Preparation of Reports and Studies

To meet the objectives of the assignment, PADCO developed a number of reports including guidelines on physical planning, reconstruction of damaged buildings, and the strengthening of wattle and daub construction. There were also studies on building design policy and methods of building cyclone-resistant masonry construction.

Development of Handbook

PADCO developed the *Sri Lanka Cyclone Handbook* as a reference guide, both for field staff and for central office administrators. The contents of the Handbook included:

- Cyclone and Storm Surge: Question and answer format of facts commonly asked about cyclones and storm surges
- Forecasting System: Description of the Sri Lanka forecasting system including: weather warnings, distribution of forecasting notices and lessons learned

- Warning System: Statement of principles for an effective warning system and a description of the proposed cyclone warning system
- Precautions for the Public: Topics addressed included: what to expect in a cyclone, preparing for a cyclone, emergency procedures during a cyclone, and evacuation safety rules
- Preparedness Plans: Checklists for all major services in the community
- Relief: Basic relief issues, each explored under the following headings: guidelines, experience in the cyclone of 1978, and lessons learned

Conducted Training Seminar

PADCO conducted a follow-up training seminar in Sri Lanka for 150 participants from various ministries and other institutions. The seminar provided information about the identification of cyclone prone areas and risks, related planning issues, repairing of cyclone damaged structures, and the sociological aspects of rehabilitation.



Disaster Assistance Manual

ASSIGNMENT: *Disaster Assistance Manual for Transition Housing*

CLIE/JTS: USAID, Office of Foreign Disaster Relief Assistance

DATE: 1980

OBJECTIVE:

- To assist the AID Office of Foreign Disaster Relief Assistance, USAID missions and US embassies in planning, reviewing, and approving post-disaster shelter alternatives

MANUAL CONTENTS:

Planning and Design Criteria

While most post-disaster shelter is normally constructed initially as temporary housing, experience indicates that it will become permanent through progressive improvements to the site, infrastructure, and dwelling unit. Because such a transition frequently occurs, PADCO believes that it is essential that it be anticipated in initial planning and design to both permit and facilitate future improvements at the lowest possible social and economic cost.

The Manual prepared by PADCO contains guidelines to assist officials in assuring that temporary emergency housing projects are planned, designed and constructed to provide for the immediate shelter

needs of the disaster victims, as well as for the orderly and progressive transition of such projects to permanent improved communities.

Project Situation Post-Disaster

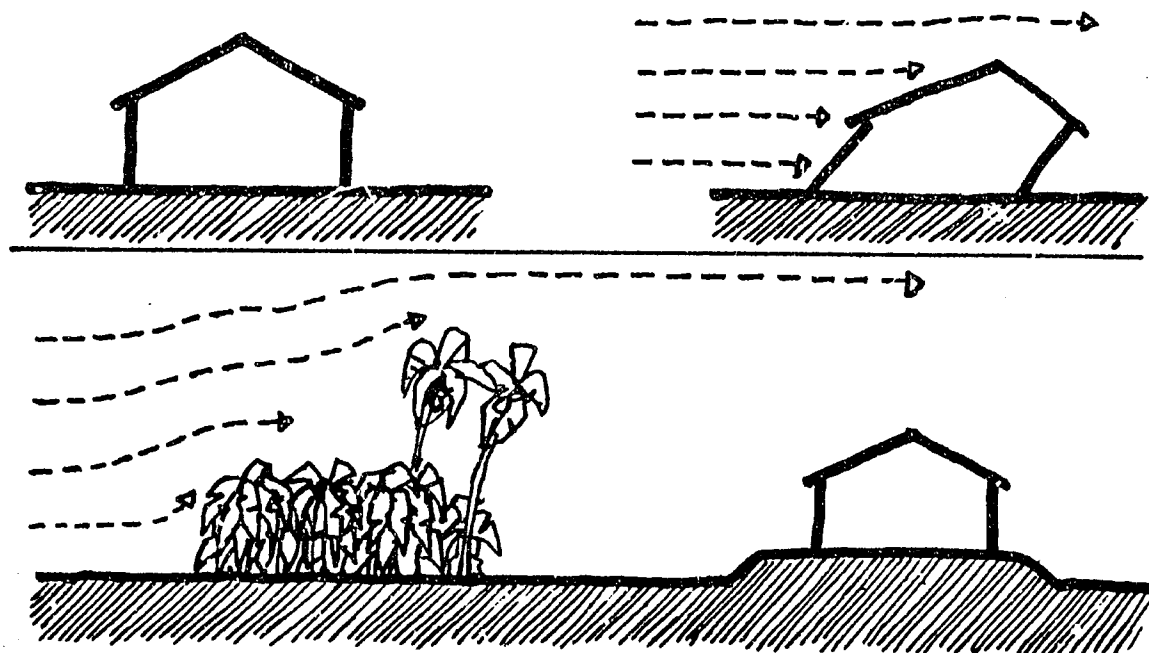
Part I of the Manual reviews the character of the project situation post-disaster. How and why people built the way they did prior to the disaster is seen as a starting point in project design equal in importance to the facts of the disaster and the avoidance of future disasters.

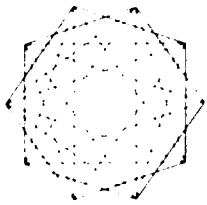
Technical Issues

Part II reviews the technical issues defined by a natural disaster and by the need to house people through a transitional period prior to permanent site occupancy.

Fast-Track Planning and Development

Part III puts forward a concept for fast track site planning and development programming that encompasses the transitional need leading to early permanent occupancy. Implementation and construction programming issues are reviewed.





Research and Evaluation

PADCO's Services

To give greater depth to its field work and develop new concepts for urban, regional and rural development, PADCO undertakes research and evaluation projects in all of the above-mentioned aspects of development.

PADCO has, from its inception, undertaken research and evaluation to support improvements in the effectiveness and efficiency of development planning and management activities. PADCO collaborates with government agencies or other consultant groups when programming in related fields.

This work has resulted in the development of computerized models and guidelines and methodologies for application to the formulation of cost-effective shelter and urban development policies, programs, and projects as well as to institution building in developing countries. This section briefly describes PADCO's capacity and experience.

Monographs and Research

PADCO also carried out a wide variety of research and evaluation in support of development planning and management activities. This section provides an illustrative summary of some of PADCO's previous research and evaluation experience.

Human Settlement Training, Manpower Policy, and National Development

PADCO, under contract to UNCHS/HABITAT, prepared a monograph on *Human Settlement Training, Manpower Policy, and National Development*. The purpose of the work was to identify the role and requirements of national training policy, training institutions and international donor institutions in human settlement training. (1985-86)

Preparing A National Housing Policy

PADCO completed a paper, *Preparing a National Housing Policy*, under a contract with the Agency for International Development. It included a description

of the concept of housing, the value of a national housing policy and organization needed to prepare a national policy. PADCO believes that the housing problem in developing countries can be solved only when there is a thorough investigation of the problem at the national level, when housing is assigned a suitable priority in the national economic development plan and when there is a unity of purpose for decisionmaking. Many housing bottlenecks can be eliminated only by action at the central level. A national housing policy establishes a framework for planning and investment in individual urban centers or in regions. (1974)

PADCO updated the original edition of its housing policy paper. The revised paper, while keeping to the fundamental principle that preparation of a national housing policy must be the responsibility of the developing country itself, attempted to develop more specific guidelines and suggested objectives based on current world experience. (1977)



PADCO sponsored the preparation of the book, *Urban Development in the Third World: Policy Guidelines*. The book was published as part of the Praeger Special Studies series and is concerned with opportunities for immediate action in urban areas in the developing countries. It discusses the underlying causes of urbanization and urban poverty, and identifies the potential advantages of urbanization as well as the problems it creates. The main focus of the work is on the systematic identification of projects likely to utilize opportunities beneficial to the urban poor. It emphasizes the importance of identifying specific types of poverty groups and their individual needs as a basis for project design. It identifies potentially relevant projects in key sectors and suggests the probable policy decisions and related actions necessary for successful project implementation. (1979)

Guidelines for Urban Land Studies (Land Needs Assessment Methodology)

ety of urban land studies. The Guidelines present a series of selected land policy issues, discuss topics for investigation, suggest selected analytical methods, and present suggestions for planning and conducting land studies. (1984)

These Guidelines provide a methodological framework to help AID and its contractors provide assistance to AID Missions in evaluating urban development issues in their countries and in responding to specific requests for urban-related assistance. The Guidelines categorize three types of UDAs appropriate for various country-specific situations: national level, regional level, and city level. Each type is related to a common core of data collection and analysis which establishes the framework for the particular issues to be addressed. (1984)

PADCO completed a *Site and Unit Design Handbook* to serve as a reference manual for use by the Regional Housing and Urban Development Offices, AID consultants, and host-country counterparts in planning and reviewing site and unit designs for projects targeted to low-income beneficiaries. The Handbook deals with criteria for site planning and subdivisions, land use standards, site development modules, housing unit design, expandable core housing, and related physical and social infrastructure. (1983-84)

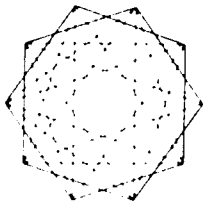
Figure 1. The three types of stimuli used in the experiment. The stimuli were presented in the center of the screen. The size of the stimuli was 1.5° of visual angle. The stimuli were presented in the center of the screen. The size of the stimuli was 1.5° of visual angle.

Figure 1 is a schematic diagram of the experimental setup. It shows a subject sitting at a desk, interacting with a computer monitor. The monitor displays a 3x3 grid of squares. The legend indicates: solid line for 'A: Dashed line', dashed line for 'B: Dashed line', dotted line for 'C: Dashed line', and a thick solid line for 'D: Dashed line'. The subject is shown pointing at the monitor.

Chart IV

Additional Monographs and Research

TITLE	DATE	CLIENT	REMARKS
<i>Planning of Sites and Services Programs</i>	1972	U.S. Dept. of Housing and Urban Development	Published in <i>Ideas and Methods Exchange</i> (No. 68). Includes a review of international experience in sites and services for their development.
<i>Urban Development Institutions</i>	1972	US Dept. of Housing and Urban Development	Published in <i>Ideas and Methods Exchange</i> (No. 67). Presents a selective review of urban administration in developing areas and explores prospects for creation of national urban development institutions.
<i>Guidelines for Establishing and Administering Land Development Agencies in Developing Countries</i>	1973	US Dept. of Housing and Urban Development	Published in <i>Ideas and Methods Exchange</i> (No. 69). Review of key issues and recommendations for the establishment of land development agencies. The paper contains recommendations for enabling legislation, financing and organizing a land development agency.
<i>Proposal for International Cooperation in Support of Habitat in Developing Countries</i>	1975	USAID	The paper was a background contribution to preparation of the United States' position for the Habitat Conference in Vancouver.
<i>Feasibility Study for Networking in Urban and Regional Development</i>	1975	USAID	Paper established the need and suggested forms for networking within countries and among developed and developing countries.
<i>Social and Economic Components in Support of Housing Guaranty Projects</i>	1976	USAID	The paper recognized that traditional social and economic development programs are ineffective because of lack of focus on low-income groups. Proposes integrated approach relating social and economic programs to specific physical settlements.
<i>Guidelines for Formulating High-Impact Programs and Projects to Benefit the Urban Poor in Developing Countries</i>	1976	USAID	Provides suggestions for projects with high beneficial impact on the urban poor. It focused on urban employment, health, education, housing, transportation, water supply and sanitation.
<i>Data Collection and Analysis through Aerial Photographic Interpretation</i>	1978	World Bank	Methodology designed to give a more reliable and readily usable data base for the development of urban projects directed to the urban poor, particularly for sites and services and for slum upgrading projects.



PADCO Computer Modeling Capacity

PADCO's Services

Micro computers are now readily available in the Third World. At the same time, new computer software is being developed that is enormously efficient for shelter and urban development analysis. There is no doubt that developing countries can measurably benefit from the introduction of appropriate software to their agencies. Existing software can address a variety of purposes ranging from simple accounting to analysis of complicated development problems.

PADCO has committed itself to innovative computerized applications for shelter and urban development analysis. PADCO's staff includes two highly-skilled computer programmers. All of the staff are conversant with computer applications of our software models. PADCO has developed, and is refining, a series of computer models for application to developing country shelter and urban development issues. PADCO also applies computer models from other sources to our own work.

Computer models currently available for application by PADCO are:

The PADCO/Bertaud Model

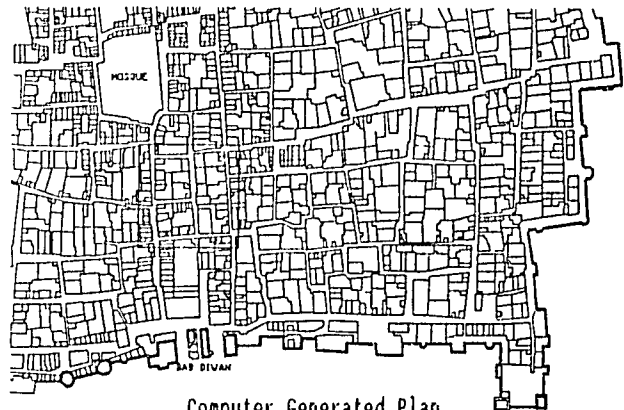
designed to deal specifically with the physical and financial characteristics of sites and services and upgrading projects. It helps technicians, policymakers, and user groups to analyze the "trade-offs" between project parameters and target group affordability.

The Resource Allocation for National Urban Development/NUPS Model

designed by PADCO to provide an analytical basis for choosing among alternative urban development investment strategies for creating urban employment and meeting the need for urban services. The Model considers initial investment cost, productivity benefits, equity, and the achievement of decentralization.

The Urban Services Investment Model

designed by PADCO to test various integrated urban infrastructure and service packages at the city, regional, and national levels, and to develop detailed investment programs once decisions have been taken by government policymakers.



Computer Generated Plan
Sfax, Tunisia

The Project Assistance Model for Private Housing Developers

developed by PADCO, is directed at improving communication and feedback among financial lenders, physical planners, and private developers throughout all phases of project development. It provides a systematic means for analyzing the consequences of potential trade-offs on profitability and affordability.

The Housing Needs Assessment Model

developed by Robert Nathan Associates and the Urban Institute, permits multiple assessments of housing needs related to changes in the assumptions about population growth rates, economic conditions, housing stock, and construction costs. It also assesses housing affordability and the costs of meeting housing needs.

More complete descriptions of each of these models are provided on the following pages.

PADCO/Bertaud Model

The PADCO/Bertaud Model was designed to deal specifically with the physical and financial characteristics of sites and services and upgrading projects. The basic concept of the Model is one of measuring "trade-offs" between project parameters and target group affordability.

The Model, developed during several years of PADCO experience in planning sites and services and upgrading projects throughout the world, can be a significant timesaver in formulating feasible settlement projects. It is of particular interest to project technicians, policymakers, user groups, and staffs of international agency appraisal missions.

Concepts Behind Model

The planning of new low-income settlements involves a large number of variables and constraints regarding physical design, financing, housing policy, building codes, and so on. Because it is difficult to simultaneously take into consideration the interrelationships of these variables and, thus, the full consequences of decisions, project planning has been based most often on arbitrarily defined standards with no particular link to target group affordability. The PADCO/Bertaud Model attempts to reduce the complexity of this situation through a series of mathematical equations which relate project parameters such as land, infrastructure and housing costs, densities, plot sizes, capital required, financial terms, and monthly loan payments. In this way, the Model allows "affordability"—both for the project beneficiaries and for the government—to become the starting point in analyzing alternatives in physical design and project financing.

Microcomputers

Extensive field testing has allowed ongoing development of the Model to better meet user needs and to incorporate technological advances in the computer field. The original Model, designed for small hand-held programmable calculators, now has several different programs based on electronic "spreadsheets" that can be combined to analyze project feasibility. The new generation of microcomputers—which are compact, economical and easy to operate—provide greatly increased capabilities and capacity over the earlier calculators.

Moduling System

The newest addition to the Model is the Moduling System which allows a planner to design and evaluate a site plan in a fraction of the time required by traditional methods. Based on a preliminary concept plan, data is fed into the computer which evaluates the information and draws modules and site plans. Once the planner is satisfied with all the modules, they can be combined into a full site plan and drawn to scale by the computer. The computer calculates and prints a table of basic land use data, including the number and sizes of plots, and the areas and percentage of each type of land use. It also calculates the cost of developing the site plan based on current unit prices.

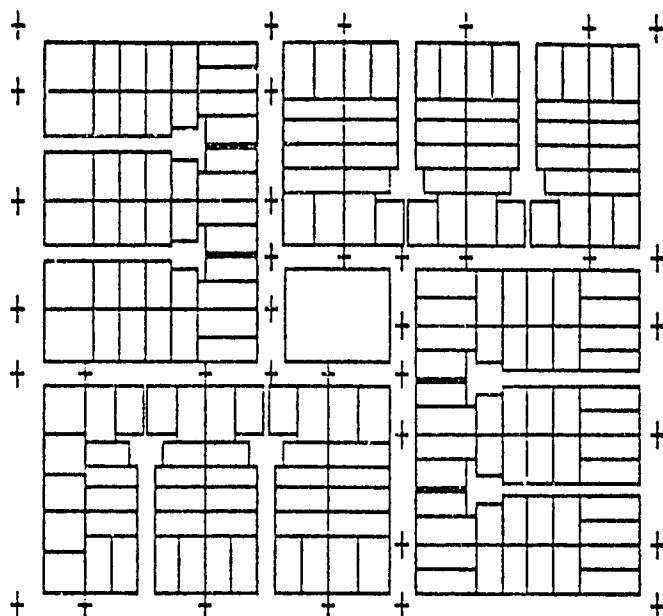
Affordability Program

The Affordability Program provides the capability to look at tradeoffs in the parameters of low-income housing developments. The program determines:

- Plot size affordable to a specific income group given certain planning, financial and cost variables. The reverse can also be done to determine the monthly payment for a desired plot. A change of any of the variables allows a rapid evaluation of many options.
- Number of plots of each size in a development taking into account different prices for infrastructure and land to assure that all plots are affordable and that all costs are recovered.

Uses of Model within Project Cycle

The Model can be used to facilitate and accelerate many of the decisions that must be made in various phases of project formulation, implementation, and appraisal. For example, the full range of programs can be employed during the project identification phase without requiring data as extremely precise or project specific as in later stages of project preparation. The objective at this early stage is to simply identify the basic features of projects having a high probability of feasibility.



LAND USE
SITE NAME: LIST1

NONRESIDENTIAL

park1 576.00
0.00
0.00
0.00
0.00

TOTAL NO OF PLOTS = 183

TOTAL	%	AREA
NONRESIDENTIAL	3.13	576.0
RESIDENTIAL	86.85	15016.2
CIRCULATION	10.02	6312.0
SITE AREA	100.00 %	21904.2 m2

PLOT AREA	PLOT NO.	% OF PLOTS	TOTAL AREA	PgUp/Dn
60.00	16	6.39	960.00	
72.00	60	28.77	4320.00	
84.00	50	27.97	4200.00	
86.13	32	18.35	2756.16	
98.00	14	9.14	1372.00	
100.00	4	2.66	400.00	
120.00	1	0.80	120.00	
144.00	5	4.79	720.00	
168.00	1	1.12	168.00	
0.00	0	0.00	0.00	
0.00	0	0.00	0.00	
0.00	0	0.00	0.00	
0.00	0	0.00	0.00	
0.00	0	0.00	0.00	
0.00	0	0.00	0.00	
0.00	0	0.00	0.00	
0.00	0	0.00	0.00	
0.00	0	0.00	0.00	
0.00	0	0.00	0.00	

Printer Ready?

PAGE 1

PgDn > 2

F1-CONTINUE

F10-CANCEL

During the project preparation phase, however, more precise data related to the particular project being developed is required. Again, programs can be applied to:

- Design alternate site plans
- Establish feasible values for selected project variables
- Explore alternative mixes of plot types and possible cross-subsidies
- Explore the effects of graduated monthly payments
- Investigate direct capital subsidies and subsidized interest rates

During project preparation, the Model can also play a very important role in allowing project technicians to enter into timely dialogues with individual households or community groups in order to identify with them the cost and other implications of shelter options being considered.

During project appraisal and implementation monitoring, the Model can be employed in the verification of a project's affordability, including the impact of differential land pricing and graduated monthly payments.

Resource Allocation for National Urban Development/NUPS Model

The allocation of resources among settlements for national urban development is an important part of overall economic efficiency. In the Egypt National Urban Policy Study, PADCO applied an economic model that recognized the key role played by the distribution of employment opportunities in determining settlement patterns and that provided guidance for the efficient allocation of investment for employment among settlements. Subsequently, PADCO applied the Model in an abbreviated form as part of Urban Development Assessments in Senegal and Nepal.

In Egypt, this analytical approach indicated that urban investment should not be diffused over many secondary cities and new towns in order to promote decentralization. The analysis recommended a more modest approach which focused investment in the capital and largest cities in order to maximize economic efficiency while moving toward practical deconcentration goals. In Senegal, the analysis again showed that investment in the primate city was the most cost-effective way to create urban jobs. In Nepal, on the other hand, it showed that investment in the cities of the lowlands was preferable to investment in the primate city and the other important, but topographically disadvantaged, cities of the highlands.

A variant of this Model was tested in the National Human Settlements Policy Study of Pakistan. PADCO has continued to revise, research and develop its approach to this major question of allocating resources among settlements. The efforts are yielding a theoretically persuasive, logically consistent, and practical Model.

Uses of Model

The NUPS Economic Model has been developed to determine efficient allocations of resources to the urban sector and to evaluate the costs in terms of output, income, and employment. It provides answers to a variety of critically-important questions bearing on national urban development and policy such as:

- Investment levels and distributions
- Settlement-pattern alternatives
- Efficiency versus equity
- Levels of urban shelter and infrastructure

Investment Levels and Distributions

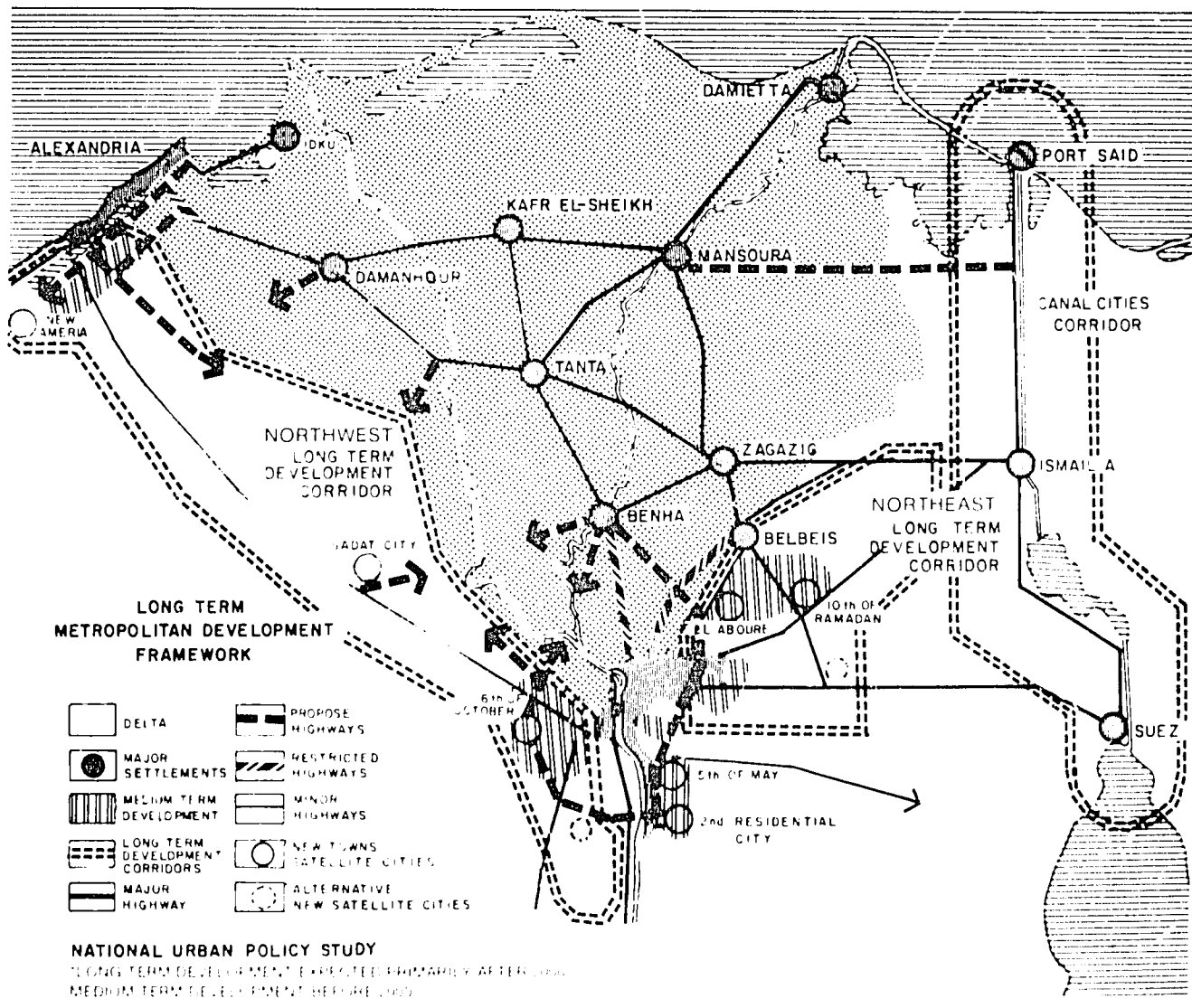
Determining the highest level of investment that can be efficiently made in an urban sector within a specific time period, and its allocation among settlements, is a critical part of the Model. The relationship of this investment to the future distribution of urban population and employment is also considered. The Model is capable of indicating the possibility of either under-investment or over-investment in the urban sector.

Settlement-Pattern Alternatives

Any settlement pattern alternative of interest to a developing country government can be explored by this Model. Alternatives of interest to a government might include developing competitors to a primate city, decentralizing population to numerous secondary cities, decentralizing a primate city to surrounding satellite towns, or developing regions essentially without urban centers.

Efficiency Versus Equity

Regional economic ambitions are often in conflict with national ones. There is the understandable desire of each region to develop its own resources and to raise the standards-of-living of its own population as rapidly as possible; but, the achievement of the highest possible rate of national economic growth may require the concentration of resources in particular regions. Economically backward regions do not have to be neglected entirely, however. Low-yielding investment in such areas competes for resources with higher-yielding investment in other areas. The amount of resources that can be devoted to producing regional equity is constrained first by the need to realize the minimum, politically feasible, national income, and second, by the overall savings effort the nation is willing to undertake over and above the minimum national income.



Levels of Urban Shelter and Infrastructure

The Model recognizes both the incentives and the costs of providing urban shelter and infrastructure and gives detailed guidance on the structuring of service standards and levels spatially. The "Investment for Urban Shelter and Infrastructure" component of the Model has frequently been applied on its own. It is of particular interest to a national urban development study. Urban shelter and infrastructure investments (which include investments in the sector itself, that is, an expansion of its capacity to produce goods and services) are complementary to investments in industry and services.

The targeting of urban shelter and infrastructure investment to support national spatial objectives is done by establishing "standards packages". A standards package is a grouping of urban shelter and infrastructure, service standards and costs, expressed in

per capita terms, designed to meet the needs of different types of settlements. For example, a standards package with relatively high service standards might be developed for an industrial growth center, whereas, another package with lower standards might be created for a city with little potential.

The urban shelter/infrastructure component consists of five major analyses:

- Settlement absorption capacity
- Investment costs of new shelter and infrastructure
- Investment costs of rehabilitation of existing shelter and infrastructure
- Operating and maintenance costs
- Regional construction cost variations

Urban Infrastructure Investment Model

Introduction

As part of the UNDP/UNCHS Indonesia National Urban Development Study (NUDS), PADCO developed a Model to analyze alternative levels of investment in urban infrastructure. The Model is designed to test various integrated urban service packages at the city, regional and national levels. The Model is adaptable to different countries.

The Urban Infrastructure Investment Model allows urban managers to rapidly identify a desired set of multisectoral infrastructure programs that can be financed within known budgetary limitations. Depending on particular requirements, urban managers can experiment with a variety of policy choices regarding targets, standards and financial arrangements for a country's entire urban population or selected urban or regional areas.

Uses of Model

The Model was developed to rapidly test both the investment requirements and financing feasibility of alternative urban services policies and programs. Among some of its main uses are determining the:

- Impact of alternative sectoral policies regarding targets, service levels, standards and technologies
- Impact of developing policies and programs for different types of cities according to differing levels of need
- Feasibility of serving urban areas through local efforts (relying, for example, on households to provide services in cities with lower levels of need, while concentrating scarce public resources in other cities where deficits are greater)

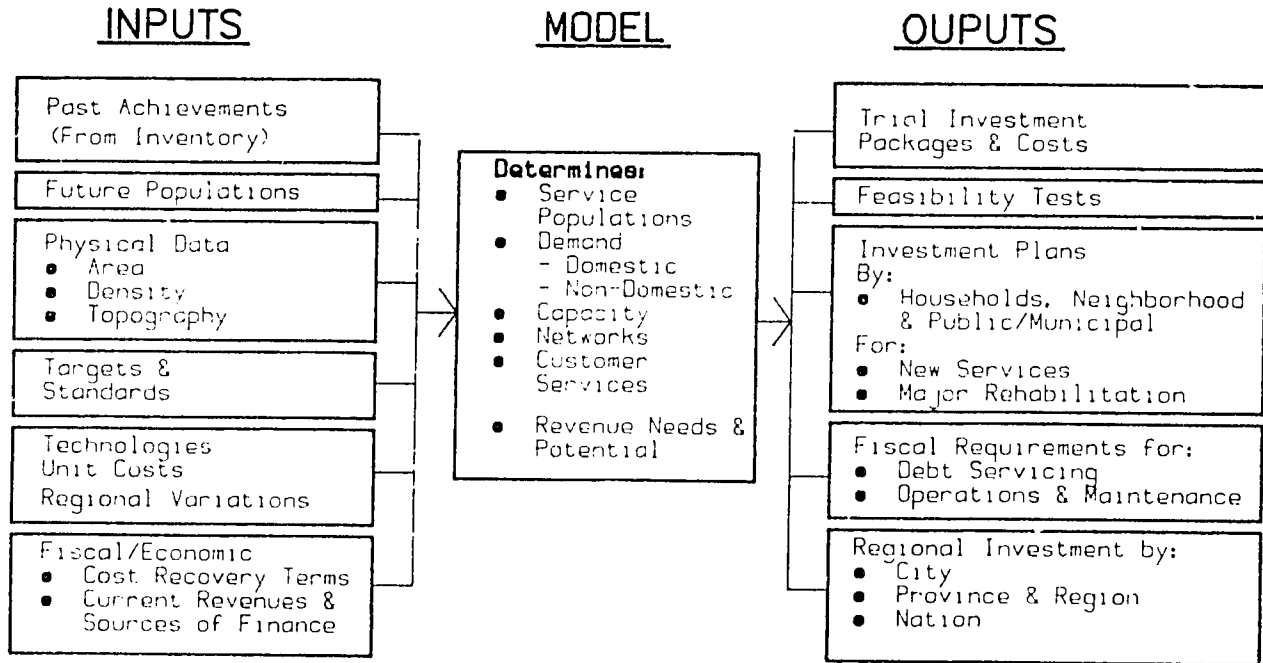
- Impact of alternative financing arrangements, for example the ability of central government to transfer all or part of the costs of developing urban infrastructure to local areas
- Impact of alternative cost recovery and revenue generation measures, (i.e., the ability of a group of cities to finance a particular infrastructure package if a new tariff structure is developed)
- Ability of urban areas to finance an adequate level of urban infrastructure for all income groups or, as the case may be, develop cross subsidies from upper-income and non-residential users of services to finance infrastructure for lower-income groups

Description of Model

The PADCO Urban Infrastructure Investment Model is designed on a modular basis for ease of operation and software maintenance. It consists of nine main modules. Each can be run independently of the others allowing full multiple level access to either the complete model or selected modules. The nine main modules are:

- Population and Land Use Module for population projections and to determine the amount of urban land for different urban areas
- Urban Water Supply to determine standards and investment levels for urban water supply, whether it is provided by households, municipal agencies, or a combination of the two
- Human Waste Disposal Module to determine standards, service levels, and investment levels for a variety of technologies (full sewerage vs. community pit latrines are two examples)
- Solid Waste Disposal Module to assess standards, service levels and investment for household, neighborhood, and urban level management systems depending on the technology used

SCHEMATIC OF PADCO URBAN INFRASTRUCTURE INVESTMENT MODEL



- Drainage Management Module to assess the severity of drainage problems and then to develop investment programs aimed at providing drainage networks needed to alleviate those problems
- Electrical Power Module aimed at assessing regional electricity demand (if interconnected regional grids have been developed) and allocating investment for regional and urban level networks
- Urban Roads Module aimed at assessing the amount of urban roads required for different classifications of urban roads and then allocating investment for both betterment and new road programs
- Urban Education Module to identify requirements for new classrooms at various levels for both urban and rural students (if rural students attend urban facilities)
- Urban Health Module to assess requirements for primary and secondary health facilities for both urban and rural populations

- Housing Module assesses urban housing needs as well as the portion of housing needs that might be supplied by public sector agencies

Each module consists of an inventory of existing conditions (a database), policy packages (standards, service levels, technologies, etc.), a knowledge base (projection programs that determine trial investment and service levels), feasibility tests and reporting formats of either individual sectoral programs or summaries of the entire national urban investment package.

Project Assistance Model for Private Developers

It is becoming increasingly evident that a more active role by the private sector is required in providing acceptable low-income housing opportunities. Developing countries and international lending organizations have initiated a dialogue in favor of private investment in low-income housing and have encouraged financial agencies to adjust their lending policies and programs toward the production of housing units affordable to lower-income families.

An essential corollary to this approach is more dynamic encouragement and assistance to landowners/developers. To this end, the simple and rapid modeling capabilities of microcomputers can be effectively employed to advise and guide private developers on the profitability and affordability of their intended projects.

The Project Assistance Model, developed by PADCO, is intended to serve as a means for improving communication and feedback between financial lenders, physical planners and private developers throughout all phases of project development. Through a series of straightforward mathematical relationships, the Model provides a means of systematically analyzing the consequences of trade-offs between profitability and affordability. This facilitates the rapid identification and evaluation of a large variety of project options related to physical and financial planning, project scheduling and implementation, and general decisionmaking. It provides the developer with concise information as to the risks involved in the project and a better cost control over the different elements of project implementation.

The Model is presently based on a spreadsheet format and thus can be easily modified to suit the needs of a particular situation. It is a simulation/evaluation exercise that examines numerous alternatives from different points of view and helps to quickly eliminate those unprofitable to the developer or unaffordable to the intended beneficiaries.

Elements of Model

The Model consists of several "subprograms" that can be used as needed during the different phases of project development (i.e., project identification and

programming, testing and establishment of target project parameters, evaluation of preliminary and final design schemes, and post-project evaluation). These subprograms relate to both physical and financial aspects of the project and are complementary in the sense that the outputs of a particular program can serve as inputs to the others.

Existing subprograms include:

- Analysis of potential housing demand related to the project
- Analysis of the potential profitability of different options available to the landowner/developer
- Mathematical simulation of a project site plan and costing of related infrastructure
- Simulation of housing unit dimensions and costing of related construction and finishings
- Analysis of project implementation and financing
- Analysis relating all major project elements
- Sensitivity analysis on anticipated profit

The Project Assistance Model is designed to assist developers throughout project execution and to help them take measures that will enable them to realize the intended profit. By fostering a better understanding of relationships between diverse project elements and profitability, the application of the Model has a positive impact in encouraging a greater participation of private developers in the production of low-income housing.

Because of its simulation capabilities and the way in which it relates physical and financial data, the Model can also serve as an important educational tool for less experienced developers, physical planners, and financial agencies who may not yet be sufficiently aware of the relationships among various project parameters and profitability.

This Model was developed and used on a World Bank-funded long-term project in Morocco.

Housing Needs Assessments Model

An accurate assessment of the current and future housing needs of a country is a critical step in the process of planning and designing shelter programs. Because this computer Model, developed in 1984, uses readily available data and is very flexible and easy to apply, multiple assessments based on varied assumptions can be made with little effort. Analysis of the sensitivity of the needs estimates to changes in assumptions about population growth rates, economic conditions, housing stock, and construction costs can be performed simply.

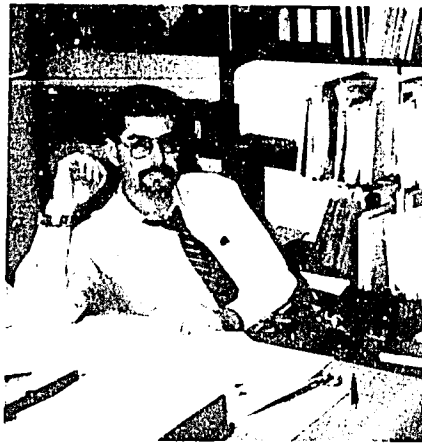
Specific features of the Model and its results of special interest include:

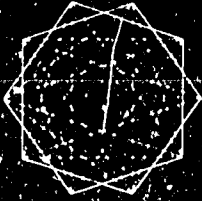
- Shelter requirements are computed for
 - five income groups
 - three geographic groupings (principal urban area, other urban areas, rural areas)
 - single 5-year or a 20-year planning horizon
- Shelter program embodied in the calculations is designed to
 - replace unsalvageable units in the stock
 - provide minimally acceptable housing by upgrading
 - construct new units to a minimum standard
 - supply housing for newly-formed households
- Model estimates several dimensions of housing needs
 - amount of new construction and upgrading of existing units required annually to reach analyst-specified goals
 - annual investment affordable by households, i.e., effective demand
 - level of government subsidy required to achieve program goals
 - annual shortfall of adequate housing

- Ease of use

- no computer expertise needed
- results immediately available
- sensitivity analysis can be done by simple data changes

The Housing Needs Assessment Model, developed by Robert Nathan Associates and the Urban Institute and already applied to numerous developing countries, represents a very substantial improvement over prior needs analyses techniques and a new level of sophistication and flexibility in such computations.





PADCO Organization, Management and Staff

PADCO is an international collaborative formed by experts in the planning and development fields. While primarily owned by its employees, its stockholders include a diversified group of professionals from private firms and organizations around the world. The operating structure consists of:

PADCO Board of Directors

In addition to its policymaking function, the Board of Directors constitutes an important professional resource for PADCO. Wherever possible, its members participate directly in the professional work of the firm, both in short- and long-term assignments. This is consistent with PADCO's desire to utilize senior professionals to inject fresh thinking into critical aspects of the group's work.

PADCO Management Staff

The PADCO Management Staff is responsible for overall management of the firm, and for ensuring the provision of Home Office support to international field offices and projects.

Permanent Core Staff

PADCO maintains multi-lingual core staff expertise in urban and regional policy and development, housing, finance, economics, and training. PADCO's core staff has developed a host of analytical techniques and methodologies which it brings to bear in PADCO assignments. The core staff also provides technical and project management for short- and long-term (overseas) assignments.

Associate Staff

PADCO has entered into contractual arrangements with various "world-class" professionals to complement the main activities and permanent staff of the firm. While the number continues to expand, several key individuals already associated with PADCO include: David Oakley, Urban/Housing Planner; Samuel Sherer, Lawyer/Planner; David Dowall, Land Economist/Planner; Marie Agnes Bertaud, Satellite Image and GIS Specialist; Timothy Smith, Finance/Management; Fred Fisher, Urban Management/Training; Jane Brown, Management Training; David Sims, Housing/Land Planner; and George Johnston, Economist.

Teams

Teams brought together specifically for individual projects composed of permanent and intermittent staff and other individuals and groups.

PADCO's computerized consultant roster enables the firm to draw upon the services of more than 1,000 professionals in the planning and development fields.

Wherever possible, PADCO will utilize the corporate resources and individual talents available in the countries in which projects are executed. It does this both to train local personnel and to realize the mutual benefits that are likely to accrue when foreign and local professionals work together.

PADCO attaches great importance to assembling project teams whose members have already had experience in working in developing areas. It is PADCO's policy to ensure that the leadership of all project teams is in the hands of core personnel with such experience.

Board of Directors

Chairman of the Board, DUANE KISSICK

Vice Chairman, THOMAS B. DEEN

Secretary, LEE E. BAKER

Legal Counsel/Assistant Secretary, MARCIA WISS

Treasurer, ERNEST A. SLINGSBY

Member, JOSEPH E. ARINGTON

Member, ROBERT N. MERRILL

THOMAS B. DEEN is the Executive Director of the Transportation Research Board and former Chairman and Executive Vice President of Alan M. Voorhees and Associates, Inc.

MARCIA WISS is presently practicing law with the firm of Kaplan, Russin, and Vecchi. She also serves as General Counsel to the Washington Chapter of the Society for International Development, and to the Council of the Association for Women in Development. She is a member of the District of Columbia Bar Steering Council for the International Committee, and a newly elected member of the American Society for International Law Executives. Previously, Ms. Wiss served as President of the Washington Foreign Law Society.



Founder and Past President (1965-1987)

ALFRED P. VAN HUYCK

Founder of PADCO

Mr. Van Huyck is a senior planner and policy analyst with more than 25 years of experience in shelter and urban development programs in developing countries. Major PADCO projects to which he has provided guidance and technical expertise include the National Urban Policy Study for the Ministry of Development in Egypt, Settlement Planning in the East Ghor Valley in Jordan, and the Development of a Master Plan for Karachi, Pakistan. He also contributed to PADCO's extensive work in Indonesia, providing assistance to such projects as Advisory Services to the National Urban Development Corporation, Kabupaten Provincial Planning and Management Training Project, the Northern Sumatra Regional Planning Study, and the Medan Urban Development Study. Mr. Van Huyck was also a senior lecturer in the Department of Urban Studies and Planning at Massachusetts Institute of Technology and was formerly the chief consultant for urban renewal in Calcutta for the Ford Foundation.

Degrees: B.A. Sociology,
Dartmouth College
Master of Regional Planning,
University of North Carolina

Specialization: Urban/Regional Planning,
Low-Income Housing

Language: English



Home Office Management Group

DUANE L. KISSICK

President of PADCO

Mr. Kissick is a planner and policy analyst specializing in urban and regional development and housing. Since 1974, Mr. Kissick has undertaken and directed numerous short- and long-term PADCO assignments. Most recently, he served as the resident urban/regional policy advisor in Nepal (USAID funded). In this capacity, he worked with the National Planning Commission and Ministries of Local Government and Public Works (along with several donor agencies) to help develop and implement the urban component to the five year plan. Mr. Kissick has worked on related projects and assignments in Tunisia, Lebanon, Portugal, Indonesia, Côte d'Ivoire, Senegal, Egypt, Cameroon, Haiti, and Yemen. Prior to joining PADCO, Mr. Kissick was architect/planner for the Municipality of Taiz in the Yemen Arab Republic; architect/planner at the University of Tunis; and a planner with a private firm in California.

Degree: B. Architecture,
University of Illinois

Specialization: Urban/Regional Planning

Languages: English, French (Nepali and Arabic,
partial)



LEE E. BAKER

Vice President

Mr. Baker is a planner and engineer specializing in shelter and urban development. His extensive developing country experience has involved both short- and long-term assignments in housing and urban policy analysis, feasibility studies, shelter sector assessments, program management and evaluation, and construction management. He has served as PADCO Home Office Principal-in-Charge of shelter-related projects in Jordan, Jamaica and Central America; and as Team Leader for PADCO projects in India, Guatemala, Egypt, Dominican Republic, Zimbabwe, and Honduras. Mr. Baker was previously a long-term resident advisor to USAID's Regional Housing and Urban Development Office for the Caribbean (RHUDO/CAR), based in Jamaica; and the Resident Director of the Long-Term Housing Development Program on the USAID-funded Medan Urban Development Study in Indonesia.

Degrees: B.S. Civil Engineering & B.A.,
Lehigh University
Master of City Planning,
University of Pennsylvania
Specialization: Urban Development/Planning
Languages: English, Spanish, Indonesian



ERNEST A. SLINGSBY

Vice President

Mr. Slingsby has more than 17 years of professional experience in the areas of housing and urban development, with special areas of expertise in infrastructure policy and programming, computer applications, and training. He is currently PADCO's Team Leader on the Central Java Small Towns Urban Development Project Impact Evaluation Study in Indonesia. Mr. Slingsby was previously the Team Leader on PADCO's Urban Services Subcontract of the National Urban Development Strategy Project in Indonesia where he was responsible for developing urban services investment policies. He was also Team Leader for Urban Development Assessments in Burundi and Senegal, and a Shelter Sector Review in southern Sudan. He has undertaken related assignments in Nepal, Egypt, Côte d'Ivoire, Mauritius, India, Thailand, Sudan, Pakistan, and Jordan. Additionally, Mr. Slingsby developed PADCO's Urban Infrastructure Investment Model to assess alternative infrastructure and services packages and investment programs at the city, regional and national levels. Prior to joining PADCO, he was a consultant to the World Bank on low-cost housing, and construction and building materials in Ghana, and an architect for the Building and Road Research Institute in Kamasí, Ghana.

Degree: B. Architecture,
North Dakota State University
Specialization: Urban Infrastructure Programming
Languages: English, French, Indonesian

Officers on Overseas Assignments



JOSEPH E. ARINGTON

Vice President

Mr. Arington is an urban and regional planner with more than 19 years of experience working with national and local governments in the developing countries in the fields of housing and urban development and municipal administration. His experience encompasses policy analysis and development, program and project feasibility studies and design, evaluation, and training. He has been responsible for the development and implementation of formal and non-formal training programs to upgrade the professional capabilities of developing country professionals in urban and regional development planning, management and budgeting, economics, housing and basic infrastructure and services, and sectoral project identification and preparation. He is currently serving as resident urban development policy advisor in Honduras for the USAID's Regional Housing and Urban Development Office (RHUDO) for Central America. Previously, he has been Team Leader of PADCO projects in Indonesia, Nepal, Nicaragua, Honduras and the Dominican Republic. He has also worked extensively in Peru, Colombia, Panama and Venezuela.

Degree: B.A. Planning and Architecture,
Rensselaer Polytechnic Institute
Specialization: Urban/Regional Planning
Languages: English, Spanish, Indonesian

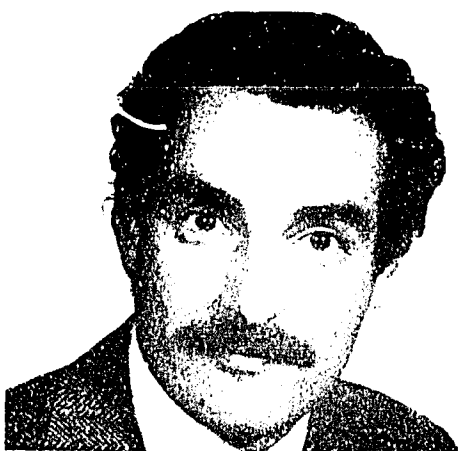


ROBERT N. MERRILL

Vice President

Dr. Merrill is a senior housing policy and financial analyst with more than 25 years of experience working in developing countries. He is presently the resident national housing policy and finance advisor to the Ministry of Construction and Housing in Jamaica, under contract to USAID. He served as PADCO's Project Director in Indonesia and Togo, and was Team Leader on shelter projects in Jamaica, Sri Lanka, Thailand, Togo, the Philippines, and Mauritius. Prior to his work with PADCO, Dr. Merrill was a consultant to the Asian Development Bank, and a United Nations housing finance and urban development advisor to the Government of Tanzania. He was also a housing finance officer in the United Nations Centre for Housing, Building, and Planning, and a consultant to the Organization of American States.

Degrees: B.S. Engineering,
University of Illinois
M.S and PhD Housing and
Economic Development,
Cornell University
Specialization: Housing Policy and Finance
Languages: English, French



Senior Staff

ALAN CARROLL

Mr. Carroll is a planner and policy analyst specializing in urban development policy, housing, land use, and urban/regional planning. He is currently the resident Urban Development Advisor on the Management Support for Small Towns Project in Nepal. He has also served as an advisor on urban land policy studies in Nepal and Jordan, participated in urban and regional development assessments in Nepal and Senegal, an urban strategy study in Guatemala, and in shelter sector assessments in El Salvador, Colombia, and Tunisia. He was previously an urban development specialist for the Bureau of Science and Technology of USAID; senior planner for a private firm specializing in urban and environmental planning; and a consultant to the World Bank to review urban and regional development in Peru and conduct research on the low-income residential market of Bogota.

Degrees: B.A. Sociology,
Tufts University
Masters City and Regional Planning,
Harvard University

Specialization: Urban/Regional Planning

Languages: English, Spanish, French



GERALD ERBACH

Mr. Erbach is an architect/planner specializing in low-income housing. He has worked extensively in the planning and implementation of settlement upgrading and sites and services projects in developing countries. His responsibilities have included overall policy guidance as well as design and construction management. He is currently serving as an urban advisor to USAID/Jordan. Prior to this assignment, he served as a planner on the Jordan National Housing Strategy Study. He has undertaken related assignments in Morocco, Yemen, Cameroon and Tunisia.

Degree: B. Architecture,
University of Notre Dame

Specialization: Urban Planning/Architecture

Languages: English, French, Arabic



PEDRO LASA

Dr. Lasa, manager of PADCO's regional office in Panama, is a senior housing finance and policy analyst. His numerous assignments with PADCO have involved analysis of national housing policies, and of housing finance and credit institutions, design of investment programs, and training in the area of housing finance. He has participated in shelter sector assessments in Tunisia, Peru, El Salvador, and Colombia. Prior to joining PADCO, Dr. Lasa maintained an extensive private consulting practice. His assignments included market studies, institutional financial analyses, preparation and management of audits of financial institutions' investment programs in

Argentina, Bolivia, Costa Rica, Chile, Ecuador, Honduras, El Salvador, Guatemala, Nicaragua, Panama, Peru, Dominican Republic, and Paraguay. He was previously the Director of the Training and Technical Assistance Division of the Inter-American Savings and Loan Union in Chile, and General Manager of the Exterior Bank and the Central Savings Bank in Panama.

Degree: J.D.,
Duesto University, Spain
Specialization: Housing Policy/Finance
Languages: Spanish, French, English



ROBERT Y. OLSEN

Mr. Olsen is an architect and urban planner. He has worked extensively as an advisor to shelter programs in developing countries, including sites and services and settlement upgrading projects. His experience encompasses land use planning, shelter project development, construction management and cost control, project evaluation and training. He has served as a technical advisor to such programs in Jamaica, Somalia, Tunisia, St. Lucia, Barbados, Côte d'Ivoire, Morocco, Kenya, Haiti, Sri Lanka, and Togo. He was previously an associate of an architectural and planning firm in Maryland; the senior city planner for Baltimore City's Department of Housing and Community Development; and architect/planner for Hamman-Sousse in Tunisia.

Degrees: B. Architecture,
University of Utah
Masters Urban Design,
Columbia University
Specialization: Urban Planning/Architecture
Languages: English, French

Washington-Based Technical Staff



CARLOS A. LINARES

CARLOS A. LINARES

Mr. Linares is an architect/planner specializing in low-cost housing. He has been involved in shelter sector assessments in Colombia, El Salvador and Peru, and has undertaken numerous related assignments in Panama, Bolivia, Costa Rica, Honduras, Guatemala, Belize, and Jamaica. He is experienced in the application of computer models for shelter programs, and has conducted extensive training of developing country staff in the utilization of such programs. He was previously an architect responsible for housing research and the design of urban settlements for El Centro Operacional de Poblacion y Vivienda (COPEVI) in Mexico; Professor of Urban Studies at the Universidad Rafael Landivar in Guatemala; and Chief of the Housing Research Unit at the Fundacion Salvadorena de Desarrollo y Vivienda Minima in El Salvador.

Degree: B. Architecture,
University of Notre Dame
Specialization: Urban Planning/Architecture
Languages: Spanish, English



CHARLES M. PILL

CHARLES M. PILL

Mr. Pill is an urban/regional planner. His experience has involved the extensive use of computer applications in urban development and shelter projects. He is presently providing technical assistance to Agence Fonciere d'Habitation in Tunisia. He has participated in the Shelter Sector Assessment for Tunisia, the Morocco Land Study, and in the Land Development Strategy Study for USAID's Office of Housing and Urban Programs. Previously, Mr. Pill served as a consultant to the World Bank's Sub-Saharan African Transportation Program, and as assistant to the director of the Conseil de l'Entente's Rural Development Program in Côte d'Ivoire.

Degrees: B.A. International Affairs,
University of Colorado
Masters Regional Planning,
University of North Carolina
Specialization: Urban and Regional Planning
Languages: English, French