Development Workshop

Urban and Regional Planning and Housing

- Technical Proposal -

Lobito-Benguela Urban Rehabilitation Program

Housing Component
Sites and Services
Project Preparation Study

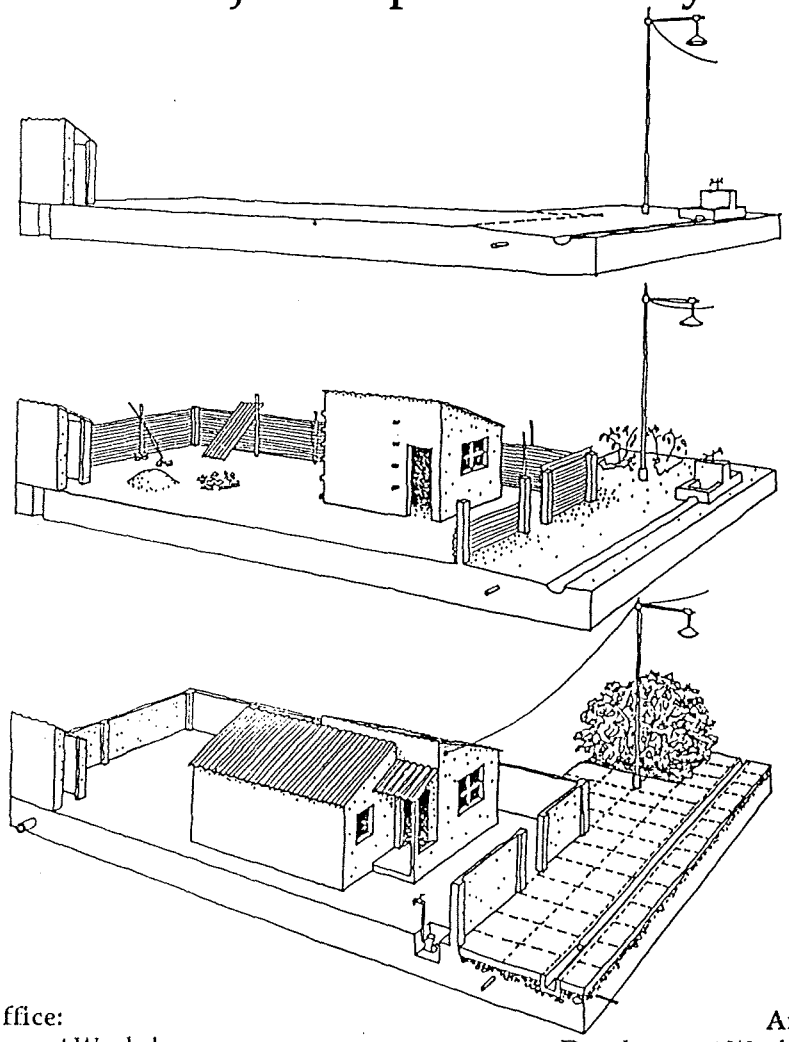

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Table of Contents

A. Introduction

The Provincial Planning Office of the Comissariado Provincial of Benguela has obtained the assistance of the World Bank for the development of Angola's first major Urban Rehabilitation Programme, covering both Lobito and Benguela, as part of the Lobito Corridor Plan. Within the global programme are subprogrammes for water supply, sanitation-latrines, repair of existing buildings, environmental upgrading, administrative support and the present project for housing, sites and services.

Development Workshop has been invited to present a proposal for the provision of consultant services for the project of housing, sites and services. This proposal document outlines the Consultants' approach to the project, the manner in which it is intended to execute the project, and comments on the Terms of Reference.

While the consultants know Benguela and Lobito and have followed the Alto Liro project over ten years, they accepted the invitation from the Benguela Provincial Planning Office to make a pre-project visit between May 21 and 22, 1990. The consultant was able to discuss the project with the Director and other officials of the Benguela Provincial Planning Office, visit the four proposed sites and speak with a few residents regarding the problems of housing. The consultant also posed a number of questions regarding the Terms of Reference but was requested to detail these in writing. This list of questions was sent in a letter dated May 23, 1990.

On a short visit to the Physical Planning Office in Benguela, the consultant did not find plans of the areas in sufficient detail for the purposes of the project so it has been assumed that preparation of topographical maps is the consultants' responsibility. The consultant was informed verbally by a senior official of the Benguela Provincial Planning Office that appropriate office space and drawing boards would be made available within the Benguela Provincial Planning Office and that support staff within the Benguela Provincial Planning Office would be made available as needed by the consultants. Even though this was not confirmed in writing, the consultants have developed the proposal on this assumption and made no allowances in the budget.

Some of the above mentioned questions were subsequently clarified and the consultants have modified their proposal accordingly.

The consultants' proposal includes an important role for training. While training is seen as a general objective, it was not assigned as a specific task in the Terms of Reference. The consultants propose to develop their materials distribution component around the use of Apple Macintosh SE30 computers, which have already been selected for use on the Lobito-Benguela Urban Rehabilitaion Project (LBURP). The consultants plan to develop a graphic computer programme whereby technicians of the Benguela Provincial Planning Office and project beneficiaries can together explore the options of materials and house types and in turn the financial and technical implications of these choices. This system will imply programming and training time in addition to time required for the task of elaborating the basic materials distribution system. The programme and training have been scheduled to continue into the time allotted for the executive phase.

About the Consultants

Development Workshop (DW), is a non-profit development organisation that specializes in human settlements planning and building in developing countries. DW provides planning, training and research services in the following fields: urban, rural and regional planning; shelter and infrastructure provision; community facilities and social services planning; disaster mitigation andsmall enterprise development in the construction sector.

Development Workshop has been working in Angola since 1980 following an invitation which was received during the United Nations Forum on Habitat in 1976. The Angolan government had then requested Development Workshop's assistance to contribute in the conceptionalization of a national self-help construction programme. One of the Development Workshop's first investigations in 1980 was the study in Lobito of the first low-cost housing upgrading project in Alto Liro. Development Workshop continued collaborating with the Secretary of State for Social Affairs in Benguela in various projects. During the recent years DW has worked with Angolan national and provincial institutions on squatter upgrading projects, school planning and urban sanitation.

DW focuses on strengthening local capacity to address human settlements problems in ways that are more sensitive to real needs, affordability levels and cultures. Three elements are central to DW's approach: the use of indigenous resources, partnership with local organizations, and training. Since 1973, DW has worked in 18 developing countries on multi-year projects with resident advisory staff working at the field level as well as on short-term technical assistance and research. Through this experience, DW as evolved a dynamic strategy for strengthening human resources. Training of trainers, institution building andthe development and production of learning materials are key components of this work.

DW has worked with organisations such as: African Development Bank, ACDI/ CIDA, OXFAM, UNCHS-Habitat, UNICEF, UNESCO, World Bank and many local community organisations in host countries.

DW has its head-office in Canada and also has regional offices in France, Angola, and in Niger. Its staff board is basically made up of architects, planners, engineers and sociologists. DW also has established associations in complementary areas with other professionals and institutions for some specific projects.

B. Comments on Terms of Reference and Project Objectives

General Objectives

The overall project objective of the Lobito-Benguela Urban Rehabilitation Project (LBURP) is to improve living standards of the population which have deteriorated due to overburdened infrastructure and urban services. These problems have been caused by the influx of migrants and the resulting unplanned urbanization. Problems of limited investment and inadequate maintenance of basic urban services, a lack of qualified staff and a weak urban management structure, have all been identified as key factors contributing to the current crisis.

Specific Objectives

Specific objectives for the "Housing- Sites and Services" component of the overall LBURP programme have been clearly specified in the project Terms of Reference. These can be briefly listed as follows, as a series of tasks to be realized:

Phase 1

1. Map and complete a topographical survey of the four proposed pilot sites.

2. Develop site planning for the lots, including all services, infrastructure and provision for future community facilities.

3. Conduct a socio-economic survey to assist local authorities to select potential beneficiaries.

4. Design three prototype houses that can adapt to changing family needs and resources.

5. Develop a programme of construction materials distribution, adapted to the phased housing model specified above.

6. Estimate the programme costs and develop cost recovery alternative plans in line with the existing Angolan economic realities.

7. Prepare tender documents for the implementation of the site distribution plan, ground preparation and basic infrastructure.

Phase II

While not part of the present contract proposal, Phase II will include:

1. Evaluation of tenders and supervision of the implementation of the programme for the 4 projects sites.

2. Implementation of the self-help construction aspect of the programme following from the construction materials distribution programme.

3. On-the-job training of local counterparts and technicians who will benefit from the programme

4. The preparation of a second similar 600 site programme based on lessons learned from the first project.

Recommendations on Terms of Reference

The Terms of Reference have been clearly specified by the Provincial Planning Office with specific project objectives. An operational work plan has been detailed, reflecting each of the key objectives. Four months are assigned for the first six tasks and five months for the final executive tasks of Phase I. Phase II, while outside of the present proposed contract, would involve at least one year of further technical assistance and supervision.

It is the consultants recommendation that a further task be assigned within the operational plan, that being the introduction of an Assessment Phase preceding the formal execution of Phase I tasks.

The Assessment Phase will be an opportunity for key members of the Consultant team to establish a working relationship with their counterparts in the local provincial administration and define the roles of each of the partners and institutions in the operational phase of the project. The consultant recommends a further one month be added to the programme plan and an Assessment Report be prepared at the end of this phase.

C. Operational Plan

General Considerations

Working Philosophy

In addition to the specific objectives outlined in the terms of reference, Development Workshop brings to the project its own philosophy and work approach developed through its experience with previous projects. Many of the following issues are already implied in the given terms of reference but will be mentioned briefly here:

- Affordability
- Socio-cultural appropriateness
- Environmentally adapted
- User participation
- Partnership between government, private sector and community
- Strengthen local capacities
- Sustainability and replicability

Counterparts

Basic to the above approach is the establishment of strong counterpart links between members of the Consultant's team and representatives of the key project partners, government, private, informal sector and potential beneficiaries. Key governmental agencies such as the Provincial Planning Office and the Commissariado's Community Service

Department will be requested to assign at least three persons - one at the planning level, one at the technical level and one with community development expertise - to work closely with the consultants on all phases of the programme.

This counterpart participation is important for three reasons:

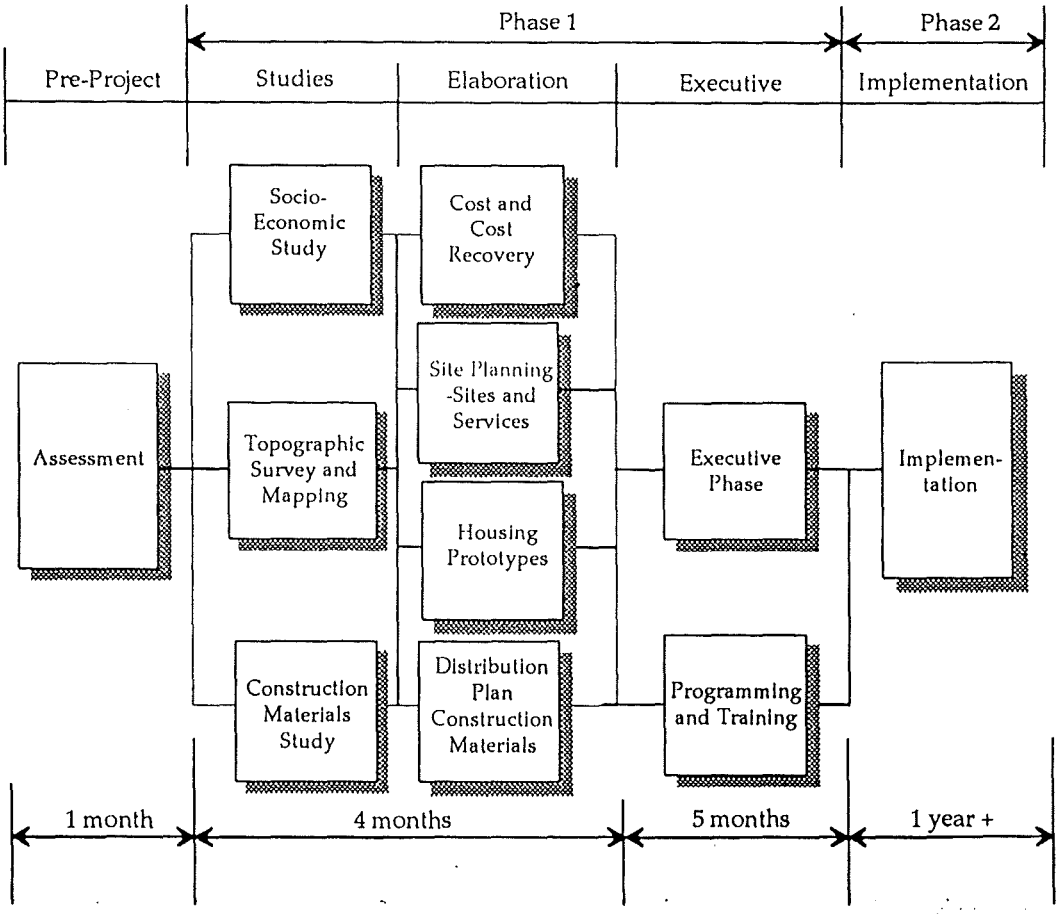
1. It ensures that the project takes close account of the actual conditions and needs of the country.

2. It helps strengthen local capacities by on-the-job training while also maximizing the use of the consultants.

3. It develops the sense of project ownership of the project in counterpart groups and helps ensure its success and sustainability.

Coordination

A small working group should be established, made up of senior government staff representing key departments involved in the various sub-programmes of the project, the present consultants and consultants working on other sectors of the LBURP. This group should meet on a regular basis to facilitate and monitor the project, provide advice, and coordinate the different executing agencies involved in the overall project. This group will, for example, coordinate the parallel projects for latrines and water supply which would be mutually beneficial .



1. Assessment of Existing Conditions, Resources and Partners

1.1. Objective

The assessment component, while not specified by Benguela Planning Office in the project terms of reference, is recommended by the consultant as a pre-project stage which will assist both the Benguela Planning Office and the consultant in clarifying the roles of each of the partners and establish a mode of operation. Information essential to the planning of the subsequent stages of the project will be gathered and analyzed. An assessment report will be prepared by the consultants at the end of this one month period and discussed with the Benguela Planning Office.

1.2. General Information

In ten years of working in Angola, the consultants are acutely aware of the importance of accurate preliminary information, given the difficult and changing conditions of work in this country. The consultants are also aware of the general lack of information regarding conditions and practices in this country. Given the above, an adequate assessment of existing conditions, practices and preferences becomes especially important.

The consultants' assessment team will consist of the project coordinator and the experts from both the socio-economic and technical fields responsible for subsequent tasks within the project plan. It is requested that the Benguela Planning Office nominates at this time its counterpart team also composed of key people from the provincial authority, responsible for policy/administration, community/social affairs and technical/engineering matters.

It will be essential that the consultants and the provincial counterpart's teams establish a close working relationship at this point. A short project launch seminar will be held at the commencement of the project involving all of the groups involved to share the goals, objectives and proposed activities of the project; and to agree on roles and responsibilities of each of the partners.

1.3. Tasks and Methodology

Information gathered during the Assessment Phase will be used to develop a detailed plan for each of the subsequent stages. The objective is to provide the project team with a sound understanding of:

a) existing conditions of land, services and housing
b) practices currently adopted by the key partners, government, private and informal sector and potential beneficiaries.

Instruments for data collection and analysis will include document content analysis, check-list analysis, socio-economic surveys, key informant interviews, and case studies. It is important to stress that these studies will be in the nature of Rapid Urban Assessments (RUA), which will focus on the direct professional needs of developing the project at hand rather than more exhaustive, time-consuming, academic-type studies. Instruments will be simple to understand, administer and analyze, brief and in every case directly related to some action in planning and implementation of the LBURP.

Counterparts such as residents in the communities will collaborate in a number of ways: as informants, as study implementors and in diagnosing their own needs and developing ways to meet these needs.

Details of the above with respect to each of the groups will be given below.

a. Government Agencies.

The key agencies here will be our government counterparts leading the development of LBURP programmes. The assessment of existing conditions, practices, and capacities of these agencies will be implemented through:

-A simple institutional analysis of the organizational structure, technical capacity, planning and implementation procedure of the agencies.

-A case-study of any recent projects similar to the LBURP implemented by the counterparts, such as the earlier low-cost housing project in Alto Liro.

- Analysis of legislation, planning and building codes, land-use and construction standards adopted in government projects.

- Attitudes of the agencies and key personnel on all the above and how they can be improved to better implement the project.

Such information is essential if the LBURP is to realistically take account of existing constraints and opportunities in the government sector and suggest innovative ways for government to be more effective in implementing the project.

b. Private/ Informal Sector: Building Materials Producers, Suppliers, Construction Firms, and Small Builders.

The key sectors here will be the private, often informal, construction sectors, especially the producers and suppliers of building materials, construction firms, contractors and small builders who currently provide materials, technologies and construction services to the government and communities. The assessment of existing conditions, practices and preferences of this sector will involve a simple analysis of the structure of this sector, the process through which the sector produces and distributes materials, costs and major opportunities and constraints they face in doing so.

c. Potential Beneficiary Communities

These will be communities that are typical of the potential beneficiaries that will likely settle in the urbanized plots of this project. Such communities, likely some mix of income-levels within the moderate to low-income groups, will be identified and will be where the studies are conducted. The goal will be to gain an understanding of similar communities so that what is proposed in the project reflects not only a definite improvement to their existing conditions, but also reflects their perceived needs and does not make demands in return (either in financial or material terms) that these communities are unable or unwilling to meet.

The preliminary assessment, which will be further developed in the socio-economic study phase of the project, will include:

- The major characteristics of the potential beneficiaries: income-levels, household size and structure e.g. male or female headed, etc.

- Land, services and housing conditions: plot sizes, level of services, house types, materials and technologies, etc.

- Living practices: method of cooking, sanitary practices, whether the house is partially used for income-generation e.g. rent room, workshop, etc.

- Process through which the community currently obtains its land, assembles its services and housing: land tenure, water vendors, construction material sources, extent to which one purchases construction services versus self-construct etc. For all these, costs involved (own time, barter, financial), financing sources and repayment arrangements will be examined.

- Attitudes and preferences regarding the above. What do potential beneficiaries want and what are they able and willing to give for it? Where and how do they need most assistance?

1.4 Results

An evaluation report will be prepared and presented to the Benguela Planning Office.

1.5 Work Plan

- Creation of a counterpart group
- Clarification of the tasks of each institutional partner - 2 person/weeks
- Review of the standards and published information - 1 person/week
- Identification of community partners and collection of preliminary socio-economic data - 1 person/week
- Identification of locally available building materials and visits to production sites - 1 person/week
- Contact with principal producers - 1 person/week
- Discussion of problems and potentials - 1 person/week
- Preliminary analysis and preparation of the report - 4 person/weeks

Total: 11 person/weeks

1.6. Inputs Required

Required services, including salaries and reimbursable costs.

Salaries:

Director
Coordinator - Architect
Socio-Economic Specialist
Construction Materials Specialist

Transport:
5 return trips Luanda-Benguela
Vehicle in Lobito

Equipment/Logistics:
2 Mac SE30 computers
1 portable computer
printer
various computer programmes

2. Topographical Survey and Mapping

2.1. Objective

The objective of this phase is to collect all available physical information, on the local topographical and environmental conditions, process them in order to furnish necessary data for the design of the site plan, housing and service infrastructures.

2.2. General Information

Apparently, according to pre-project visit made to Benguela by the consultant, there are no topographic maps and details on the site s for the 4 project areas. Where the areas are adjacent to recently planned settlements, such as Barrio 70 and Alto Liro, some topographic data can be extrapolated from the plans of local previous projects. For this reason, we have included a qualified surveyor in our team who will work under our project engineer.

2.3. Tasks

The first task will be to work with Physical Planning Office staff in the preparation of a micro-localization map which will define the physical limits of the 4 project areas and specify the areas and perimeter dimensions.

The surveyor's second task will be to carry out a detailed topographic and physical survey including the levels, physical aspects and vegetation, drainage and surrounding factors which may influence the settlement. The prepared plans will be used as the basis for future development during the planning phase of the area.

Soil studies of each area will be made employing the services of Engineering Labratory of Angola (LEA) in Luanda. LEA has one of the best equipped laboratories of this type in Africa. LEA agreed to collaborate with Development Workshop in this phase of the project and will also provide a senior professional, to join the team later, during the project execution phase.

During the pre-project visit to Benguela and Lobito, the consultant identified various types of soil conditions in the project's 4 proposed areas. The soils of each one of these areas will be analysed in terms of their load bearing capacity, expansion, and other factors related to foundation design, roads and service lines. The soils will be analysed in terms of their impermeability and other similar factors which may influence the design of sewage water systems, drainage andsoakaways.

An analysis of the area environment will be carried out using the available climatic data about winds, solar insolation, temperature range and other factors which may affect housing environmental design and spatial planning.

2.4. Results

1. A micro-localization plan will be produced to be presented to the Prvincial Physical Planning Office for official approval.

2. Topographic plans will be produced for each area on a 1:1000 scale, showing contour curves and vegetation as well as the existing physical structures.

3. A laboratory report on the soil conditions will be prepared with the engineering recommendations for foundations, roads, service lines, and drainage.

4. Recommendations on the use of the soil for the preparation of soil-cement mortar and blocks or adobe, will be given.

5. Guidelines will be developed for optimum orientation of housing and spacial design on the basis of local environmental factors.

2.5. Working Plan

- Boundary specification for the 4 sites
- Micro-localization planning - 1 person/week
- Topographic surveying - 2 person/weeks
- Preparation of maps for the 4 sites - 2 person/week
- Soil sample collection for laboratory tests and reporting - 6 person/weeks
- Climatic/environmental analysis of the area - 3 person/weeks
- Report Preparation - 1 person/week

Total: 15 persons/week

2.6. Inputs Required

Salaries:
Architect/Planner
Topographer with team (4)
Soil Engineer with team (6)

Transport:
8 return trips Luanda-Benguela

Logistics:
Vehicles in Lobito
1 computer Mac SE30
drafting table and equipment
topographic equipment
soil sampling equipment
laboratory equipment for soil tests

3. Site Planning - Sites and Services

3.1 Objective

1. Prepare site plan proposals for sites and services for the 4 sites, showing minimal service options and the possibility of upgrading to optimum service standards in the future.

2. Obtain official planning approval for the 4 site plans from the Benguela Provincial Planning Office.

3.2 General Information

Site and land use plans will be prepared demonstrating a phased, incremental development and will include the following:

- Land use plan showing lot distribution
- Circulation plan with roads and footpaths
- Water distribution plan with public standpipes, clothes washing points, etc.
- Electrical distribution drawings showing lighting points
- Surface drainage plan showing storm sewers
- Open space for recreation and greenery
- Plan for the designation of sites for community facilities, market, primary school and health post.

The site planning will be developed after a thorough analysis of the data obtained from each of the Site Surveys, Socio-Economic Study and from the Evaluation phase.

Coordination will be maintained between both the Physical Planning Office and the Technoexportstroy team preparing the master plans for Lobito and Benguela. Both of these groups will be requested to provide information on projected population trends, plans for future development, and proposed planning norms and guidelines.

Special attention will be given to the environmental influences on site planning such as solar orientation, wind direction and the creation of natural vegetation to maximize the potential for the creation of a climatically comfortable environment.

3.3 Tasks

The plan will be developed through the following stages:

• Analyse published standards, master plan guidelines, the consultant's physical survey, socio-economic study and assessment and draw up a list of guidelines for the plan.

• Prepare preliminary design of land use relating to engineering, environmental and economic parameters.

• Discuss plan with local authorities, project partners and potential users and adapt the plan, taking into consideration their criticisms and suggestions. Site walkabouts or other participatory techniques will be used as a means of obtaining opinions and suggestions.

• Prepare an intermediate design to fit all site parameters and to reflect attitudes and preferences of project partners and users.

• Develop appropriate water supply, sanitation and waste-management systems, including street water standpipes and washing areas.

• Develop low-cost road and footpath options which can be easily improved to higher standards at later stages.

• Prepare presentation drawings for services and infrastructure components showing upgrading options.

• Submit plans to the Benguela Planning Office for official planning approval.

3.4 Results

1. A set of design drawings and a short descriptive report will be produced at the end of this stage showing land use, lot distribution, services and infrastructure.

2. The technical options for services will be determined, including the level that these services would be supplied initially and at a future improved stage.

3.5 Work Plan

- Analysis of data and norms - 1 person/week
- Preliminary site design - 8 person/weeks
- Consultation/critique with partners - 2 person/weeks
- Preparation of intermediate site plans - 2 person/weeks
- Preparation of service options - 2 person/weeks
- Preparation of site service drawings - 4 person/weeks
- Preparation of descriptive report - 1 person/week

Total: 20 person/weeks

3.6 Inputs Required

Required services, including salaries and reimbursable costs

Salaries:
- Project architect
- Project engineer
- Technician

Transport:
- 6 return trips Luanda-Benguela
- vehicle in Lobito 4x4

Equipment/Logistics:
- use of 2 drafting stations at drawing office in the Benguela Planning Office or Comissariado Municipal
- 1 portable Mac computer
- 1 Mac SE30 computer
- 1 printer
- 1 UPS (uninterrupted power supply)
- various computer programmes

4. Socio-Economic Survey

4.1. Objectives

1. To carry out a socio-economic survey in order to identify the criteria for selecting potential beneficiaries of the project.

2. To complement the development of three prototype houses by providing baseline information on the different needs among family households in relation to size, family household income, and other preferences indicated by the beneficiaries.

4.2. Tasks

• Review existing information (e.g., census surveys, published research, and information from government agencies) and assess if it is up-to-date and relevant to the specific conditions of the project.

• Obtain a preliminary rapid, if approximate, impression of the housing problems and needs of the potential target population through:
- selective meetings with people or agencies who have a special understanding of such problems and needs.
-efficiently planned and managed public meetings and group discussions with local leaders.

• Consult with local authorities to identify some typical housing areas characterised by relatively lower-income and other representative groups in which to carry out informal research, e.g., observations from walkabouts, interviews with local residents, case studies of individual households, etc.

• If the results of the above preliminary and informal research activities warrant it, develop a simple questionnaire and carry out a more formal socio-economic survey in typical housing areas. This may also involve an identification of the ways in which the community can be involved in carrying out the survey.

• Identify and assess formal and informal community organizations.

4.3. Results

1. A report will be written which will summarise the results of the socio-economic survey and provide baseline information on the following:
• household size and structure
• household economy (important for assessing issues of affordability, cost recovery, and both access to and ability to pay for building materials)
• settlement patterns (use of external space)
• household attitudes to their locality, including use of available facilities
• simple indicators on the socio-cultural use of space within the house and family plot (internal space)
• evidence of any local community organisation involved in housing or helping people with local problems

2. A draft Eligibility Questionnaire will be developed and tested to assist in the selection of beneficiaries. This Eligibility Questionaire will include an elaboration of selection criteria such as need, housing affordability, ability and willingness to accept rules such as

loan repayments and housing construction timetables, proximity of site to employment source of the applicant, etc.

3. An assessment will be made of the potential for community involvement through both formal and informal structures in project implementation.

4.4. Work Plan

Because the socio-economic survey provides important baseline information relevant to other aspects of the study (e.g., design of three prototype houses, distribution of construction materials, identification of appropriate cost recovery programmes, etc.), the survey will be conducted at the start of the larger study.

- Review and assessment of existing information: 1 person/week
- Preliminary field impressions: 1 person/week
- Informal field research: 3 person/weeks
- Development and testing of simple socio-economic questionnaire: 1 person/week
- Formal field research: 3 person/weeks
- Assessment of research: 1 person/week
- Development and testing of draft Eligibility Questionnaire: 2 person/weeks
- Preparation of report: 2 person/weeks

Total: 14 person/weeks

4.5. Inputs Required

Budget for services, including salaries and reimbursable costs

Salaries
- Researcher (anthropologist)
- Research Assistant

Transport
- two round trips for both researcher and research assistant Luanda-Lobito-Luanda
- vehicle in Lobito for field work

Equipment/Logistics
-computer and printer

5. Housing Prototypes

5.1 Objective:

To design three housing prototypes which can be selected by future beneficiaries.

5.2 General Information

Most Angolan families from the lower income community have little financial capacity to build permanent housing with a standard level of urban services. They are therefore obliged to occupy marginal land and build a basic shelter with only simple materials. Studies of urban musseques (squatter settlements) in Angola have shown that while a family may first occupy their site by building one or two rooms with adobe or other

local materials, over time the family usually extends their house as their family grows and improves the quality of materials as more income is earned.

This energy of owner-builders and their willingness to invest their own financial resources in improving and expanding their housing is what the LBURP must mobilize.

The consultants propose developing a system of phased housing, adapted from the traditional process of housing. The system considers that housing is a process that changes and adapts with time, financial capacity of the family, and other necessities.

The system also takes into consideration the limited capacity of the formal sector of civil construction and for this reason the system will optimize the use of local resources and the participation of the inhabitants.

Houses will be constructed using a process of assisted self-help. Project participants will have a selection of housing types to choose from, depending on their family needs and resources, but each type will evolve from a simple core house.

The core house will be a minimal unit without service connections but with an improved latrine on site, which can provide basic housing for the family while they extend their house further. The core house will be constructed with project assistance in the acquisition of building materials. This plan of building materials assistance will be further developed by the consultant. Like the housing, site services can also be upgraded over time in line with the civil authority's capacity to provide them and the house owner's capacity to pay for their cost.

5.3 Tasks

• A study of data gathered in the evaluation, socio-economic study and physical survey will be analyzed, taking into consideration site planning, lot design and existing standards.

• Preliminary prototype designs will be developed based on the above analysis. Special attention will be given to environmental factors to promote comfortable conditions and reduce construction costs. Designs will be produced that are simple to construct using local builders and the labour provided by the family.

• Models will be developed to facilitate discussion with potential users from the community and to solicit their comments and preferences.

• Preliminary prototype designs will be submitted to the Benguela Planning Office for criticism and suggestions.

• Presentation drawings and models will be prepared illustrating at least three options in the phased housing system.

5.4 Results

1. A system of phased housing, illustrated by at least 3 prototype house models, will be developed.

2. A method of communicating options using models will be developed to assist project beneficiaries to articulate their preferences.

3. Drawings and models of the prototype houses will be produced.

5.5. Work Plan

- Analysis of data produced in the evaluation, the socio-economic study and physical survey regarding factors related to housing - 1 person/week.

- Detailing the preliminary scheme for the system of phased housing - 2 person/weeks.

- Production of models - 2 person/weeks.

- Discussion with community and provincial authorities - 1 person/week.

- Production of presentation drawings - 2 person/weeks.

Total: 8 person/weeks.

5.6 Inputs Required

Services required, including salaries and reimbursable costs

Salaries
- Architect
- Anthropologist
- Building materials expert

Transport
- 2 return trips Luanda-Benguela
- vehicle in Benguela

Equipment/Logistics
- drawing equipment
- modelling materials
- access to duplicating machine for drawings

6. Construction Materials Distribution

6.1 Objective

Develop a programme for the distribution of construction materials.

6.2. General Information

The lack of building materials is a serious problem in Angola and is normally cited as the major constraint in any construction project. This situation occurs because Angola's production capacity falls far short of the needs of the country. In the Lobito-Benguela Urban Rehabilitation Project, the problem of procuring the necessary building materials will have to be overcome before the issue of distributing the materials can be addressed.

6.3. Tasks and Methodology

• Conduct a survey to identify raw and processed building materials that are available through the state, private and informal sectors in the Lobito-Benguela area. Raw materials would include stone, cement, sand, gravel, lime, timber, soil, reeds, thatch, sisal, bamboo, etc. Processed materials include concrete blocks, roofing sheets, sheet metal, nails, wire, door and window frames, paint, etc.

• Assess the realistic availability, quantity and cost for each of the materials identified.

• Assess if the local production capacity could be improved in the formal and informal sectors.

• Assess if any additional materials could be produced locally (e.g. sisal-cement roofing sheets, soil-cement blocks, water containers, floor tiles, door/window frames, drainage channels, tubes, etc.).

• Assess what materials would have to be imported into the Lobito-Benguela project area after all the possible sources of locally available materials have been explored.

• Consult with the designer on what materials and quantities would be necessary for the housing. Examine each component of the building (foundations, walls, mortar, doors and window, roof structure, water collection, etc.) and evaluate alternatives to maximize locally available materials.

• Calculate the amount of building materials needed for the construction of 600 houses.

• Evaluate and compare the need for building materials with the supply available.

• Evaluate the existing capacity of state and private structures/facilities for the procurement, storage, handling and distribution of building materials in the quantities necessary for the project.

• Evaluate various methods of distributing construction materials in similar housing projects.

• Evaluate the results of the socio-economic survey to assess beneficiaries access to building materials and ability to pay for the materials.

• Develop a computer programme that could be used by the beneficiaries with assistance of local building authorities to evaluate the possible combinations and varieties of building materials and housing design which would maximize the family's financial and material resources.

• Develop a realistic and manageable system to distribute construction materials to the beneficiaries of the project, including a system of payment which will take into consideration how the construction of the houses will be organized (e.g. self-help, contractors, etc.) and how the building will be financed.

• Develop a computer programme that could be used by the project office to control and manage the system of procurement, storage and distribution of building materials.

• Train provincial staff in the use of computer programmes.

6.4. Results

1. A report will be written which will:
- Summarize the construction materials that are available locally.
- Recommend if and how local production could be improved.
- List the type and quantities of building materials that would be needed for the construction of 600 houses.
- Recommend sources of building materials.
- Recommend an appropriate structure for the procurement, storage and distribution of building materials.
- Propose a realistic and manageable system to distribute construction materials to the project beneficiaries.

2. A computer programme that would be compatible with the Provincial Planning Office's system (Apple Macintosh SE30) will be developed that could be used by the local authorities to assist the beneficiaries to choose the building materials that would be most appropriate for the construction of their homes.

3. A computer programme compatible with the Provincial Planning Office's system which would be used to control and manage the procurement, storage and distribution of building materials will be developed.

4. Training of the local staff responsible for the operation of the computer programmes and associated equipment will be provided.

6.5 Work Plan

- Conduct a survey to identify available building materials - 3 person/weeks

- Evaluate the gathered information and the possibility of improving the production capacity - 3 person/weeks

- Consult with the designer and calculate which materials and what quantities are necessary - 2 person/weeks

- Evaluate the existing capacity of structures and facilities for the procurement, storage and distribution of building materials - 1 person/week

- Develop a distribution system for building materials - 2 person/weeks

- Prepare report - 3 person/weeks

- Develop a computer programme for controlling and managing the procurement, storage and distribution of building materials - 2 person/weeks

- Develop a computer programme to calculate the possible combinations and types of building materials for each family - 6 person/weeks

- Train local staff in the use of the two computer programmes - 5 person/weeks

Total: 27 person/weeks

6.6. Inputs Required

Services required, including salaries and reimbursable costs

Salaries
- Building Materials Specialist
- Technical Training Specialist

Transport
- 4 return trips Luanda-Benguela-Luanda
- vehicle in Benguela-Lobito

Equipment/Logistics
- 2 Mac SE30 computers
- 1 printer
- 2 UPS (uninterrupted power supply)
- various computer programmes

7. Project Costs and Cost Recovery Alternatives

7.1. Objective

Estimate the cost of the programme and recommend cost recovery alternatives.

7.2 General Information

In line with the project's general objectives of sustainability and replicability, the consultant will propose alternatives for cost recovery and financing. These factors relate directly to the issue of affordability, and the family's capacity to pay for various standards of housing and levels of services. The affordability question is a basic one which will be asked early on in the project planning cycle at the assessment stage and again in the socio-economic study.

Costs of inputs such as building materials, water and services, will be difficult to assess within Angola's current dual economy. Most families participate to varying degrees in both the official and the parallel economies. Housing affordability is extremely difficult to assess at the present time because of the very wide differences between official income and parallel prices. It is anticipated that the Angolan Government will implement its economic reform plans before the end of the current year which will bring prices and incomes into closer alignment and begin to overcome some of the extremes of the current parallel economy.

The consultant will develop cost recovery alternatives which take into account these factors. This will be aided by the consultants' vast experience in Angola, especially in the housing sector.

7.3. Tasks and Methodology

Cost recovery strategies will be developed from an analysis of both costs and the affordability question. To achieve this the following will be considered:

- During the assessment phase of the project, costs currently incurred by the target community for housing, land and services will be solicited.

- Affordability will be assessed in terms of the household's ability to pay for housing, land and services, their income levels and the percentage that they can afford to spend on the above.

- Assessment of existing methods of financing land, services and housing, e.g. savings, loans from relatives, local money lenders, etc.

- Willingness to take loans (financial or material, e.g. building materials) from government sources and willingness to repay. Beneficiaries may be averse to incurring loans or to repaying government.

- Identifying the least advantaged groups (poorest, single women-headed households, disabled, etc.) for grants or subsidies.

- Reducing costs for lower-income groups through differential pricing (raising prices of bigger, better lots for relatively richer beneficiaries, or of commercial plots) or through cross-subsidies from the sale of such plots.

- Financing through cross-subsidy from other similar projects aimed at higher-income groups.

- Examining alternative financing sources, e.g. existing government funding sources (housing loans system, etc.).

- Developing financing parameters appropriate to characteristics of beneficiaries, e.g. collateral (individual or group) related to assets of beneficiaries, repayment amounts indexed to increase with incomes, flexible repayment periods related to income flow patterns, etc.

- More effective repayment collection methods such as group responsibility for repayment, credit circles relying on each individual repaying before the next individual gets credit etc.

- Promotion of income-generating activities. Residential areas typically have a significant amount of income-generating activities within them that contributes to the vitality of that area. Such activities, so long as they do not seriously endanger health and safety, should be encouraged. Beneficiaries often rely on them for essential income as well as low-cost, convenient service.

- The project may consider a credit scheme to further assist the development of such activities especially among the least advantaged.

- Suggestions may be made on how existing planning and building regulations and procedures may be improved. For example, revision in codes and standards to permit incremental development and housing solutions that reduce construction materials cost.

• Utilities (water and electricity): charges, payment schedules, monitoring and collection methods. For example, differential, exponentially increasing user-fees indexed to amounts of water and electricity used.

7.4. Results

A report will be written that will propose various options for cost recovery with the viability of each alternative in relation to the actual conditions of the project.

7.5. Work Plan

The consultant's team includes an expert in housing and affordability, a member of D.W.'s board of directors who has participated over a number of years in World Bank housing missions using the Bertaud Model. He will take part in the design of the research component of the assessment stage and in the analysis of the socio-economic data. An Angolan economist involved in the development of the country's first housing credit policies will participate in the team with responsibility for preparing a proposed strategy for cost recovery for housing, land development and services.

It is foreseen that this phase of the project will be largely analytical and draw upon information previously provided from the field in the assessment and socio-economic and building materials distribution research.

- Preliminary evaluation of project costs - 4 person/weeks
- Evaluation of financial capacity - 2 person/weeks
- Proposals for financial recovery - 2 person/weeks

Total: 8 person/weeks

7.6. Inputs Required

Services required, including salaries and reimbursable costs

Salaries
- Economist
- Low Cost Housing Specialist
- Engineer

Transport
- 2 return trips, Luanda-Benguela
- vehicle in Benguela/Lobito

Equipment/Logistics
- Mac SE 30 computer
- printer
- various computer programmes

8. Executive Phase

8.1 Objective

To prepare the executive project and documents, including site plans, lots, infrastructure, earthworks, technical specifications, quantities, costs and the work programmes.

8.2 General Information

The work of this phase can commence once the proposals of the consultant developed in the earlier stages have received official approval and are adopted as guiding documents by the Benguela Planning Office and all relevant official structures. The World Bank team, having earlier reviewed preliminary work related to the urbanization plan will also need to give their agreement before the consultant proceeds with the executive work. It is anticipated that approval will be obtained quickly because the relevant authorities will have been consulted at all stages of the project development process.

During the executive phase, projects may be detailed and improved but major changes in conception of the project are not anticipated. If, for external reasons, changes are necessary and the consultants are required to deviate from their work plan, more time to complete the executive plan may be required.

Work of the executive phase will be accompanied by the coordinator. The preliminary responsibilities will be with the Project Team's Engineer who will oversee the work of the quantity surveyor, civil construction technician, and draftsman.

Much of the work of the executive phase will be conducted in the Consultants' offices in Angola where the project team will be based at this time. Periodic site visits are anticipated to coordinate matters as they arise with the Benguela Planning Office and gather any outstanding field information that may subsequently be necessary.

The consultants have established a collaborative relationship with LEA - the Engineering Laboratory of Angola in Luanda, for the provision of support services on this project. The LEA technical documentation centre will be used in the details of budgets for the various project elements.

8.3 Tasks

- Establish with the Benguela Planning Office and World Bank the norms and format required for the drawings and other documents required by their tender procedures.

- Prepare site plans.

- Prepare infrastructure plans.

- Prepare earthworks plans.

- Prepare general budgets of the costs in relation to size and quantities specified in the plans.

- Prepare a written report for the project including technical specifications of the proposed work.

• Prepare a work programme for the implementation phase of the project.

• Prepare tender documents for selection of contractors for the implementation of the project.

8.4 Results

The project will be in a form to hand over to the Benguela Planning Office in anticipation of inviting tenders for the implementation phase of the project.

8.5 Work Plan

- Establish procedures with Benguela Planning Office and World Bank - 1 person/week
- Prepare plans of the various plans for siting, infrastructure, earthworks, etc. - 20 person/weeks
- Prepare general budgets - 8 person/weeks
- Prepare a written report - 8 person/weeks
- Propose programme for Phase II - 2 person/weeks
- Prepare tender documents - 5 person/weeks

Total: 44 person/weeks

8.6 Inputs Required

Salaries
- Coordinator/Architect
- Engineer
- Quantity Surveyor
- Civil Engineering Technician
- Draftsman

Transport
- 3 return trips for the Coordinator and Engineer
- vehicle in Lobito for field work

Equipment/Logistics
- 2 computers Mac SE30
- 1 printer
- 2 UPS (uninterrupted power supply)
- various computer programmes
- 3 drawing tables and drafting equipment

Lobito-Benguela Urban Rehabilitation Project - Housing, Sites and Services Project

Task Work Programme

Activity	Evaluation 1	Studies 2	3	4	5	Executive 6	7	8	9	10	Phase II 11	12	Person Months B-L	Person Months Luanda	Person Months Canada	Travel Luanda-Benguela	Travel Canada-Luanda
1. Assessment of Existing Conditions	●○												1.75	1.00		5	2
2. Survey and Mapping a) architectural		●●●○											0.25	1.00		1	
b) topography		●●○											0.50	0.50		4	
c) soils		●●●●○											1.00	0.50		6	
3. Site Planning-Lots and Services		●●●●●●●●●○											1.00	4.00		2	1
4. Socio-Economic Study		●●●●●●●●●●○											3.00	1.00	0.25	4	1
5. Housing Prototypes		●●●●○											0.25	1.75		1	
6. Construction Materials Distribution		●●●●●●●●●●○				●●●●●●●●●●●●●●○							1.50	5.25		4	
7. Costing and Cost Recovery Alternatives				●●●●○									1.00	1.00	0.25	2	1
8. Executive Phase						●●●●●●●●●●●●●○							2.00	9.00		3	
Support Staff	●●●●●●●●●●●●●●●●●●●●●●●●●●●●												8.00	18.00		4	
SUB-TOTAL:													20.25	43.00	0.50	36	5

Duration of Activity ●●●●●

Reports/Results ○

TOTAL: 63.75 person/months

Lobito-Benguela Urban Rehabilitation Project - Housing, Site and Services Project

Staff Work Programme

Evaluation: 1 | Studies: 2, 3, 4, 5 | Executive: 6, 7, 8, 9, 10 | Phase II: 11, 12

Name	Position	Person-Months B-L	Person-Months Luanda	Person-Months Canada	Travel Luanda-Benguela	Travel Canada-Luanda
Allan Cain	Director	1.00	2.00		3	1
Otto Greger	Coordinator/Architect	2.75	3.50		4	
Ricardo Miranda	Civil Engineer	2.00	8.00		6	2
Susan Hurlich	Socio-Economic Specialist	2.50	1.00		2	
Anne Beamish	Constrution Materials Spec.	1.00	2.75		2	
William Donovan	Technical Training	1.00	2.75		2	
Maribel Gonzales	Social Planner	0.25	0.00	0.25	1	1
Farokh Afshar	Low-Cost Housing Specialist		0.25	0.25	1	1
Rosa Victor	Housing Economist	0.25	0.25		1	
Rui Marques	Soil Engineer	1.00	1.00		6	
Luis Cunha	Engineering Assistant		3.00			
Paulo Assunção	Topographer	0.50	0.50		4	
Support Staff	Various	8.00	18.00		4	
	SUB-TOTAL:	20.25	43.00	0.50	36	5

Full-Time ■■■■
Part-Time □□□□

TOTAL: 63.75 person-months

D. Development Workshop Team

Introduction

During the last ten years Development Workshop has accumulated considerable valuable experience working within the difficult local conditions found in Angola. The proposed team's expertise is largely extracted from Development Workshop's resident expatriate staff, and from the head-office staff with previous experience in Angola. Development Workshop has also included Angolan specialist collaborators in its project team.

Development Workshop has made an agreement with the Angolan Engineering Laboratory (Laboratório de Engenharia de Angola-LEA), one of the oldest and most respected technical laboratories in Africa, to provide specialised technical support for the studies of soils and construction budget estimates.

Allan Cain, one of Development Workshop's directors and an architect with more than 17 years of experience, 10 of which have been in Angola will have the overall responsibility of the project on behalf of the consultants.

Otto Greger, an architect/plannerist with 8 years of experience in Angola, will provide general coordination and will take part in the project design of housing and urban infrastructure.

Ricardo Miranda is the team's chief Civil Engineer. He has more than 15 years of professional experience, with the major part in similar World Bank projects in various countries. Mr. Miranda will have the major responsibility for all engineering matters and will be responsible for the management of the project's executive phase and will coordinate other technical inputs of the specialist team members.

Susan Hurlich is the Development Workshop Angola resident Anthropologist, and for several years has been involved in the training of urban community workers and social research in Angola. Ms. Hurlich brings to the project more than 15 years of professional experience. She will be responsible for the socio-economic study and will supervise local research assistants.

Anne Beamish, an architect, is the team's expert on building materials. Ms. Beamish is a Development Workshop staff member in Angola and has worked for several years in Southern African countries on the problems of locally produced materials. She will be responsible for the study on available material resources and developing proposals for their distribution.

William Donovan is a specialist in training with many years of experience in local staff training in the use of appropriate technologies for housing and building. Mr. Donovan will work as part of the team developing the programme for materials distribution and will be responsible for the development of the computerised programme to be used by the Angolan local staff from the Benguela Planning Office and by the project beneficiaries.

Dr. Farokh Afshar is a Director of Development Workshop and has contributed as consultant to several World Bank urban development projects. He will contribute within the team as consultant on the housing policy and its relation with investment funding and cost recovery.

Maribel Gonzales is Executive Director at the Development Workshop head-office with previous experience in Angola. She will provide assistance to the team responsible for the design of socio-economic study and data analysis.

Rosa Victor is a leading Angolan housing economist and will be assisting Development Workshop in the development of alternatives for cost recovery and financing.

Engineer Rui Marques will be responsible, jointly with a team from the Angolan Engineering Labratory (LEA), for soil tests and recommendations on the structure, and road and infrastructure adapted to different soil conditions of each site.

Engineer Luis Cunha will assist in the detailing of the technical project and cost estimates. Engineer Cunha will be mainly involved in the project executive phase.

Mr. Paulo Assunção is a leading surveyor in Angola and has already worked both with Development Workshop and with the Engineering Labratory of Angola on various projects. He will be contracted with his team to produce detailed topographic maps of all project sites.

Development Workshop will also dedicate several of its local supporting staff members to the project, to help in the project administration and implementation.

Development Workshop Profile

Urban Development and Training Capacity

DW's urban development work ranges from macro level urban and housing policy formulation to technical assistance at various stages of the full project cycle - identification, preparation, design and implementation, through to evaluation. DW has also advised on the establishment and operation of the necessary organizational structures and institutional frameworks to provide low-income housing and municipal infrastructure services. DW urban development projects include preparation of master plans, low-income area upgrading, sites and services schemes, and upgrading of community infrastructure and facilities (such as schools, health centres), conservation and revitalization of historic centres.

DW has been working in the urban sector in Angola since 1981. Since 1986, DW has provided short-term consultants at various stages of several World Bank-assisted urban development projects in India and Pakistan. Ongoing assistance has also been provided to the Aga Khan Housing Boards in these two countries as well.

Training is a key element of DW's work. In urban development, DW training activities emphasize upgrading local capacity in the areas of project planning, cost effective designs, and administration for local development projects. DW therefore focuses on strengthening local government functionaries as well as self-managed organizations such as builder's brigades, women's groups and other types of self-help groups. In Pakistan and India, for example, DW has provided training in project planning to municipal development authorities. Production of training manuals appropriate to the literacy and skill levels of the groups are an important part of these efforts.

Project Experience

DW urban development and training projects include the following:

Luanda Urban Development - ANGOLA (1981 - present)

Under a technical assistance agreement with the Angolan government, a resident DW advisory team advises on policies for the development of urban low-income areas, assists in securing donor support for urban projects, and provides technical assistance to government agencies in implementing specific urban development projects. DW has worked with the former National Department of Urbanism from 1981-85, and since 1986, with the Office for Bairro Upgrading. Urban projects which DW has assisted include a pilot bairro (slum) upgrading, food for work, educational facilities planning, research and development for manufacturing soil cement blocks and tiles and construction / upgrading of community facilities.

Musseque Upgrading Pilot Project - ANGOLA (1985 - present)

Funded by a consortium of Canadian and European Non-Governmental Organisations, Sambizanga is the first low-income area upgrading initiative in the country. DW provides technical assistance in institutional development, project planning, and implementation to the newly created Office for Bairro Upgrading and community groups involved in the project. Project components include: institution building; low-technology improvements in infrastructure and services; community development; training of builders and community development workers.

National Shelter Sector Review Mission - PAKISTAN (1987-1988)

DW was part of a World Bank Mission to review Pakistan's shelter policies and programs including, urban slum upgrading, rural sites and services and housing improvement. The review assessed land constraints, infrastructure and construction standards, affordability and financing, and institutional mechanisms for planning and implementation.

Urban Self-Help Housing Construction Project - TUNISIA (1987)

DW assisted the UNCHS and Urbaplan to reformulate the urban housing self-help construction project. DW assessed technical and operational problems and advised on the integration of socio-economic aspects, and project preparation for the self-help building.

Assistance to Urban Development Projects - PAKISTAN (1986-present)

DW provides consulting services to the following World Bank-assisted projects in Pakistan: Karachi Special Development Project, Lahore Urban Development Project and the Punjab Urban Development Project. DW works with municipal corporations, urban development authorities, and the Directorates of Katchi Abadis (slum areas) at various stages of the project cycle. Areas of assistance include: design of work plan and project cycle; design of physical, socio-economic research for the Walled City (Lahore) Upgrading and Conservation; staffing, billing and administrative procedures; consultant hiring and tendering; standards, costs, affordability, cost recovery, land lease sale policy, plot allocation procedures; community participation, waste management, home improvement loans. DW also assessed training needs of local staff in the slum upgrading component of the Karachi Special Development Project.

Kerela Urban Development Project - INDIA (1986)

DW undertook project identification and project preparation missions for the World Bank to assist local administration and housing authorities prepare slum upgrading and sites and services projects for three cities. Assistance was provided in identifying suitable sites, infrastructure standards, pricing and financial mechanisms to make projects affordable to low-income groups. Personnel were trained in these aspects and on the project preparation methodology and the use of a computer model for land pricing, costing and design.

Assistance to Aga Khan Housing Boards INDIA and PAKISTAN (1981-1989)

The Aga Khan Organisation sought DW's assistance in providing organizational development guidelines and training priorities for planned expansion of its Housing Boards (based in Karachi and Bombay) activities in housing and settlement planning. Current activities and staffing of the Boards were assessed. Recommendations were made on: objectives and scope of activities of the Boards; project development methodology; organizational strengthening and restructuring; and human resource development needs, including staff training.

Training in District Planning, Punjab and NWFP, PAKISTAN (1983)

DW was part of a joint mission between UNICEF and the United Nations Regional Development Centre to examine UNICEF assistance at the local district planning level. The mission assessed the planning and training capacity at the provincial and district levels, examined the community participation in planning at the local level, and developed a 3-year assistance programme for UNICEF to be implemented in selected districts. A three week course for trainers on District Planning was also designed and implemented.

Training Seminar on Housing, PAKISTAN (1982)

DW staff was part of the faculty for a professional practice seminar conducted by the M.I.T./Harvard University Outreach Program. Prepared module on comparative approaches in upgrading low-income urban areas.

Jakarta Kampung Upgrading Project, INDONESIA (1982)

On behalf of the Aga Khan Award for Architecture, DW evaluated the impact of the low-income area improvement project. The evaluation analyzed alternative improvement strategies and the trade-offs they represented between short-term cost efficiency and implementation speed, on the one hand, and community participation and income distribution effects on the other.

Selseleh Integrated Development Project, IRAN(1975-1977)

DW implemented a comprehensive programme for the Settlement Planning & Building section of the project (area 40 sq.km.; 1975 population of 60,000). This included: preparation of a regional plan and a town plan for the main urban centre; work with the municipality in design and management of municipal services; infrastructure and building construction projects; research and development of local building resources; training of builders and community development workers; establishment of building materials industries.

Regional Development Policy, OMAN (1973-1974)

DW provided consulting services to the Ministry of Planning of Oman to assess the impact of Oman's modernisation policies on the development of its cities and villages and to recommend strategies for the development of housing, services, market centres and small industries.

Professional & Academic Training Programmes, UK, USA, CANADA, LAOS

DW has worked with academic and training institutions to design and implement short-term seminars and academic programmes for planning professionals and graduate students. These institutions included: the Architectural Association (United Kingdom) and Massachusetts Institute of Technology-Harvard University, Islamic Architecture Outreach Programme (USA), the School of Rural Planning and Development, University of Guelph (Canada) and the Ecole des Techniciens Superieurs du Batiment (Laos). In addition, DW staff have assumed teaching posts and lectureships in universities in Canada, France, Angola and Iran.

Staff

Position	Name	Responsibilities
Director	Allan Cain (part time)	• general supervision
Coordinator Architect/Planner	Otto Greger (full time)	• project coordination • urban planning • prototype housing design
Civil Engineer	Ricardo Miranda (full time)	• assist urban planing • detail design • executive phase
Socio-Economic Specialist	Susan Hurlich (part time)	• socio-economic survey
Construction Materials Specialist	Anne Beamish (part time)	• distribution plan • assist design
Technical Training Specialist	Will Donovan (part time)	• training programme
Social Planner	Maribel Gonzales (short term)	• socio-economic survey
Low-Cost Housing Specialist	Farokh Afshar (short term)	• affordability policy
Housing Economist	Rosa Victor (short term)	• financing and cost recuperation
Soil Engineer	Rui Marques (short term)	• testing and soil analysis
Engineer	Eva Havelka (short term)	• technical backup
Engineering Assistant	Luis F. Cunha (part time)	• technical details • cost estimates
Topographer	Paulo Assunção (part time)	• topographic survey • preparation of base plans

Support Staff

Assistant Researcher	Marília Lopes	• assist socio-economic survey
Drafstman	Manual Vemba	• drafting
Administrator	Mary Guinapo	• staff support
Driver	Mário dos Santos	• support

Name: **ALLAN CAIN**

Profession: Director of Development Workshop, Architect

Age: 40

Nationality: Canadian

Years with Development Workshop: 17

Position on the Team: **Director Responsible for the Project**

Key Qualifications

Allan Cain is a specialist in project planning of urbanisation, low-cost housing and the improvement of squatter areas (musseques). During his ten year experience in Angola, he has carried out projects for community buildings, school planning, and popular participation programmes. Mr. Allan Cain, also, has developed programmes for the production of building materials using local resources.

Mr. Cain will act as the liasion between Government entities and the World Bank on behalf of the consultants in this project and will supervise the overall programme. Mr. Cain will also participate in key areas of the project.

Education

1971 - Waterloo University, Canada - BES/Arch
1974 - Architecture Association, Great Britain, A.A. Dipl. (M.Arch)
1974 - Royal Institute of British Architects, R.I.B.A. Part II

Professional Experience

1973 - to present
Co-Director - Development Workshop (DW)

1988 - to present
Representative - Canadian Council for International Cooperation - Programme Angola. Responsible for the development and management of the programme which includes 20 development projects, training, technical assistance and emergency aid. The programme involves the management of 18,000,000.00 Canadian Dollars for a period of more than three years.

1985-1990
Architect/Principal Planner - Luanda Squatter Area Projects, Angola. Project of improvement of an unserviced urban squatter settlement. It is a first intervention in an area of 10,000 persons and includes school and health clinic renovations, standpipe installation, latrines etc.

1986-1987
Coordinator Architect/Planner- Basic Sanitation Project of Luanda's Squatter Settlements, Angola. Studied the sanitation in Luanda's informal squatter "musseques". Wrote proposals for water drainage, latrine construction and removal of wastes. Coordinated a team of international consultants and national experts.

1984 - 1987
Consultant/Project Planner - Canadian International Development Agency CIDA / ACDI Harare, Zimbabwe. Evaluation and technical assistance to Canadian projects in Angola supported by the Canadian High Commission in Harare, Zimbabwe. Projects included water supply, irrigation, and technical training. The responsibilities included financial control, project management, logistic support and preparation of project activity reports.

1981 - 1986
Architect/Planner - National Department for Urbanisation and Building, Luanda Angola. Responsibility for the development of self-help construction projects including school planning, urbanisation, refugee settlements, training manuals for intermediate technicians, and research on local building materials such as soil-cement.

1980 - 1981
Consultant - Study of Urban Informal Housing Sector - Egypt with the ABT Association Cambridge Massachusetts, USA. Responsible for elaborating a survey and investigating the characteristics of domestic and community homes and infrastructures. The research was carried out in Cairo and in various Egyptian provincial towns and consisted of a study of 1000 units in the informal and formal building sectors.

1980 **Principal Architect/Instructor** - Tapis Vert Integrated Development Project, Chical Niger.

1979 - 1980 **Architect/Planner/Researcher** - Rural and Peasants Study Institute, Teheran Iran.

1975 - 1978 **Architect/Planner**- Integrated Development Project, Selseleh - Luristan, Iran.

1974 - 1975 **Architecture Lecturer** in the Third World - Architectural Association, School of Architecture, London Great Britain

1973 - 1974 **Architect Consultant/Planner** - Ministry of Planning and Development, Muscat, Oman

1973 **Researcher** (Architect-Planner) - Hassan Fathy (Architect) Cairo, Gourna Egypt.

Languages

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Portuguese	Good	Excellent	Good
French	Satisfactory	Good	Weak

Signature: **Date:**

Name: OTTO R.H. GREGER

Profession: Architect / Planner

Years of collaboration with the Development Workshop: 4

Age: 49

Nationality: German (FRG)

Proposed Position on the Team: Coordinator/Planner Architect

Key Qualifications

Otto Greger is an architect and planner with more than 8 years of experience in Angola. Mr. Greger has worked in urban planning such as in housing and social facilities planning, acquired during 20 years in developed and developing countries.

Through his practical and research work, Mr. Greger has been engaged as consultant and researcher in the identification and assessment of proposals for sanitation and urban multi-sectoral development projects, in Sudan, Egypt, Angola and Brazil.

Mr. Greger published as author and co-author, 4 books and 7 articles and is co-founder and editor of the magazine "Trialog" which deals with planning and construction problems in third world countries.

Education

1962 - 1965 Architectural Study, Munich Technical University, FRG. Cand. Arq.

1964 - 1965 Research on urban structures, Institute for Construction Investigation and Habitat History, U.T. Munich, FRG.

1966 - 1970 Architecture and urbanism study, Berlin Technical University, FRG, diploma, M.Arch.

Professional Experience

1986 until present
Professor: Department of Architecture, Engineering Faculty, Agostinho Neto University, Luanda, R.P.Angola. In the framework of inter-university cooperation between Angola and Germany, he is lecturer of "Construction and Environment", collaborates in the Department of Studies and Projects at the Faculty in monitoring and elaborates architectural and urban projects. In 1988 he participated in conferences in Cuba linked to the metropolitan informal growth, economic housing and urban sanitation strategies.

1989 Coordinated an investigation project on the living and housing conditions in Luanda informal urban zone (Sambizanga).

1981 - 1986
Assistant Professor: Planning and Construction Department in developing countries, Faculty of Architecture, Berlin Technical University, FRG. Lectures and seminars on housing, urban planning, housing construction and popular participation in the construction of houses in developing countries.

1982 - 1986
He carried out a research project (4 years), promoted by Volkswagen Foundation: "Architecture and Urban Configuration in Cairo; the meaning of tradition for the present", which was published as a book.

1983
Visiting professor at the Agostinho Neto University Department of Architecture, in Luanda (3 months).

1978 - 1980
Architect-Planner- Construction and Housing Ministry - Huambo Regional Delegation (6 months): Development of projects for single family houses, nurseries, primary schools, telecommunication installations and post-offices, as well as urban planning and rural housing with the priority use of appropriate technologies and local materials (bricks, soil-cement).

1979 - 1980
National Department of Urbanism and Housing, Angola
- Development of urbanisation projects in Luanda and Lukapa (Lunda Norte) including: 130 public buildings, 600 plots for self-help construction, and public services for 12,000 inhabitants (160 ha).
- Luanda-Petrangol: 500 plots for self-help construction, community buildings and public services for 4,000 inhabitants (65 ha).
- Lukapa/Luanda Norte: Immediate intervention for the future provincial capital: 500 homes for single family houses and community buildings, and public and administrative services, supporting zones, for 2,500 inhabitants.
- Luanda-Sport Cidadela: Integration and renovation of the existing part in the future zone to be urbanised (126 ha): 80 community buildings, 800 plots for single family houses, sport complexes, social and cultural installations, green belts and support, study and estimate for the improvement of the circulation system.

1976 - 1978
Chief Architect: Berlin Senate, FRG - Developed school construction programmes.

1974 - 1976
Architect, Dipl.-Eng.: Architecture workshop - Poreike, Berlin, FRG - urban and housing sanitation

1971-1973
Architect, Dipl.-Eng.: urbanism and community construction working group - ASK-Berlin, FRG - Study Seminar (5 months) in: Egypt: Hassan Fathy, Cairo/Gourna; Sudan: Northern Karthoum urbanisation project. Ethiopia and Djibouti: Housing programmes and projects for low-income groups.

Languages:

	Speaking	Reading	Writing
German:	Mother Tongue		
English:	Good	Excellent	Good
Portuguese:	Excellent	Excellent	Good
Spanish:	Satisfactory	Excellent	Satisfactory

Signature: Date:

Name: **RICARDO M. MIRANDA**

Profession: Civil Engineer

Age: 40

Nationality: American and Philippine

Position on the Team: **Principal Engineer**

Key Qualifications

Ricardo Miranda is a Civil Engineer with more than 12 years of professional experience in planning, coordinating and implementation of engineering works, at the technical, professional and managerial level.

Mr. Miranda has worked in development projects in the public and private sectors, in many Third World countries, namely in the Philippines, Saudi Arabia and Iraq, funded by international agencies such as IBRD, ADB, USAID and GTZ.

For 3 years he has been principal Engineer of projects in the United States of America which included the design, monitoring and assessment of the costs of Civil Engineering works in the area of urban planning, public works, disaster mitigation, road planning and environmental control.

Because of his qualifications, and his professional experience in the key above mentioned fields, Mr. Miranda has been invited by Development Workshop to participate in this project with responsibility for the principal engineering aspects.

Professional Training

1985 - Advanced course in CAD (computer assisted design) Elmsford, New York, USA.

1980 - 1981 - Graduate course in Industrial Engineering, Philippines University, Quezon City.

1973 - Bachelor of Sciences of Civil Engineering, Philippines University, Quezon City.

Professional Experience

1987 to present
Civil Engineer - IVI Consultants in Housing Investments Armonk, New York USA. Made specifications for the construction of houses, and projects monitoring.

1985 to present
Chief Civil Engineer - Raymond Keyes Assoc. Site planning, design of water drainage systems, sanitation, water management, streets/roads improvement, soil erosion control facilities. Supervised the preparation of plans, prepared specifications, wrote reports on quantity and project estimate costs. Used CAD when appropriate.

1983 - 1985
Assistant Vice-Chairman - Norconsult Filipinos - Responsible for the production of feasibility studies, and civil engineering, residential and housing projects construction. Blacks Island water project Director, in the Philippines (GTZ/funded by the Asian Development Bank).
- Project director for 4 public municipal markets in the provinces of Northern Cotabato and Pampanga, Philippines (USAID).
- IBRD Highway Project, engineering detailed design services, Philippines (funded by IBRD).
- Sapang Bato Compound Community Development, construction management services, Philippines (USAID).
- Al Qassim Development Project, Outlining services monitoring, Al Qassim, Buraydah, Saudi Arabia.

1980 - 1983
Project Director, Westlake Development Complex, engineering feasibility study (500 hectares of housing development), Philippines.
- Central Visayas Urban Project, Philippines (Highways, maintenance, drainage and urban services), (funded by IBRD).
- Small water pump and communal irrigation projects - engineering, preconstruction and construction monitoring services, Philippines.
- Housing Project for 1400 units in Basrah, Iraq, Localisation Planning and detailed engineering design.

1977 - 1980
Project Coordinator/Deputy Director - PSA GROUP Naga-Calabanga Integrated Area Development Project, Detailed engineering survey and design, Bicol River basin, Philippines (funded by ADB). Detailed engineering design of water supply systems at the municipal level in Lingayen, Pangasinan, Philippines (with IBRD assistance).

1976 - 1977
Division Chief, Crown Construction and Development Corp. Engineers, Contractors and Builders. Philippines.

1975 - 1976
Technical Assistant of the President. Permastress Industries Inc. Manila, Philippines

1973 - 1975
Consultant. Percon Inc. (Now Asia Business Consultants) Manila, Philippines.

Languages

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Spanish	Good	Good	Satisfactory
Philippines	Excellent	Excellent	Excellent

Signature: Date:

Name: **SUSAN HURLICH**

Profession: Anthropologist

Age: 45

Nationality: American

Years with Development Workshop: 8

Proposed Position on the Team: **Socio-Economic Researcher**

Key Qualifications

Susan Hurlich has 14 years of experience in carrying out in field socio-economic research, including 12 years of experience in the planning and design of projects in developing countries. Her professional experience includes working at the community, non-governmental and governmental levels. She has already worked in various Southern African countries (Angola, Mozambique, Zambia, Zimbabwe, Namibia, etc.) and in West Africa (Cabo Verde, Guinea-Bissau and Benin).

Ms. Hurlich has been responsible for many socio-economic studies, particularly in the rural communities. In recent years, Ms. Hurlich has developed her expertise in peri-urban upgrading and renewal projects. She has been responsible as the development anthropologist in Angola, for training community and institutional researchers and field workers in urban development programmes, and for coordinating field investigation studies.

Education

PhD Candidate, Anthropology, University of Toronto, Canada.

MA, Anthropology, University of Calgary, Canada, 1973.

BA, Anthropology, University of California, Berkeley, 1968.

Professional Experience

1988 to present
Anthropologist with Development Workshop in Angola. Trained a team of five community researchers and field workers to carry out water, sanitation and health surveys for urban upgrading and renewal programmes. Also responsible for the coordination of field investigation studies in the rural areas.

1985 - 1987
Consultant with CIDA (Canadian International Development Agency).
- Fishing Community Development Project, Zambia. Team member which covered the socio-economic study of fishing communities in Lake Mweru Wantipa and Lake Bangweulu/ Swamp area.
- Responsible for a five-person team for a cross agency study to identify mechanisms for CIDA support to developing country women's organisations.

- Carried out an assessment on the policy and programme implications of women's role in the development of agriculture in SADCC countries (study made in Zambia).
- Responsible for a four-person team (including two Zambians) for the preparation of a comprehensive country review on women in Zambia. The study included a socio-economic research on the women's role in the rural and urban areas, an evaluation of the socio-economic impact of CIDA bilateral programme in Zambia on the women, and recommendations on the possible WID programming areas for CIDA in Zambia.

1985 to present
Co-Director of Rural Sciences and Technology Institute (RSTI), a non-profit corporation which carries out research and consults on land use management, women in development, development communications, appropriate technology, and projects planning/ administration with SADCC countries.

1982 - 88
Member of Development Workshop, Angola Programme, with coordination from Canada. Assisted with planning and designing of projects and with development work teams for the carrying out of these works.

1978 - 85
Southern Africa Project Officer, OXFAM-Canada.
Responsible for the planning, design and evaluation of projects in agricultural, education, health, shelter, and productive activities in Southern Africa, including extensive travel in the region.

1975 - 77
Coordinator of the Toronto Committee for the Liberation of Southern Africa (TCLSA), a community committee carrying out educational, research and public campaign activities in relation with Southern Africa.

1973 - 76
Teaching Assistant: Sociology Department, Atkinson College, York University, Canada, and Dept. of Anthropology. Univ. of Toronto, Canada.

1972 - 75
Instructor, New College Interdisciplinary Programme and Dept. of Anthropology, San Jose State Univ., Calif.

Languages

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Portuguese	Good	Good	Satisfactory

Signature: Date:

Name: WILLIAM JAMES DONOVAN

Profession: Technical Training Specialist

Age: 38

Nationality: American

Years with Development Workshop: 1 year

Position on the Team: Vocational and Technical Training Coordinator

Key Qualifications

William Donovan worked four years in northern Mozambique as technical specialist for the the development of small low-cost technologies for the production of building materials in communal villages. He developed production methods, designed and constructed production equipment as well as trained staff in the production of burnt bricks, lime, clay and fibre-cement tiles and stabilised soil blocks. He helped in the setting up of a provincial laboratory for analysis of appropriate materials for bricks and lime production and is co-author of 5 manuals in Portuguese on burnt clay bricks production and a manual on water storage container production with non-reinforced cement. He set up a fiber-cement tile production unit in the provincial capital and trained construction teams to use these materials in construction.

Mr. Donovan worked a number of years in Lesotho at a rural training centre. There he helped set up building construction, carpentry, textile, leather and metal works courses, organised procurement for all sectors, and developed computer programmes for ordering and procurement of supplies. He set up and installed computers and printing equipment and trained staff in their use.

In southern Sudan, he was in charge of the development and implementation of non-formal training programmes for a rural development project in a remote village in the areas of woodworking, metalworking, welding, vehicle maintenance, house building, and brickmaking. Moreover, he designed and supervised the construction of various workshops, warehouses, offices, etc.

Education

M.Sc., Industrial Technology at Illinois State University, 1979.

- Bachelor of Sciences, Industrial Arts for Education, at State University of Oswego, New York, 1974.

- Associate Degree in Applied Sciences, Electronic Technology, at Auburn Community College, 1971.

Professional Experience

1989 to present
Trainer in Community Technologies: for Development Workshop - Angola
In charge of setting up a specialised training centre in technologies for the improvement of urban housing in Luanda squatter settlements.

1986 - 1989 (33 months)
Vocational Training Specialist: for Aurora Associates - BANFES Project at Thaba-Tseka Skills Training Centre in Thaba-Tseka, Lesotho.
In charge of the development of curricula for building construction, carpentry, textile, leather, metalwork and literacy courses; teacher training; and ordering of all tools and equipment necessary for the training areas.

1986 (3 months)
Consultant: for Development Workshop of Canada in Luanda, Angola. Assisted in the production of a 120 page report for the Secretary of State for Social Affairs on the "Vocational Workshop Programme for the War Disabled in Angola".

1986 (2 months):
Consultant: for Oxfam-Great Britain in Pemba, Cabo Delgado, Mozambique.
Assisted in the practical aspects of setting up a new Oxfam programme in Cabo Delgado.

1981 to 1986 (52 months):
Specialist in Building Materials: For a Canadian project sponsored by the Ministry of Public Works in Cabo Delgado, Mozambique. In charge of the development and implementation of small low-cost technologies for the production of burnt clay bricks and tiles, stabilised blocks, lime and fibre-cement tiles in rural villages.

1979 to 1981 (18 months):
Training Specialist for Harvard Institute for International Development. In charge of the organisation of training programmes in wood and metalwork, welding, vehicle maintenance, building construction and brickmaking for a rural development project in southern Sudan.

1978 to 1979 (14 months):
Recruiter for Peace Corps, a voluntary organisation, at Illinois State University. In charge of the recruitment of individuals with skills in agriculture, domestic education, industrial arts and special education for overseas voluntary work.

1976 to 1977 (13 months):
Industrial Arts Teacher teaching woodwork and technical drawing in a high school at Tongatapu Island in Tonga, South Pacific.

1974 to 1976 (24 months);
Industrial Arts Teacher teaching woodwork and technical drawing in a secondary school in Belize, Central America.

Languages

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Portuguese	Satisfactory	Satisfactory	Satisfactory

Signature: Date:

Name: **ANNE BEAMISH**

Profession: Architect, Building Materials Specialist and Trainer

Age: 36

Nationality: Canadian

Years with the Development Workshop: 1 year

Position on the Team: **Building Materials Specialist**

Key Qualifications

Anne Beamish has worked for 5 years in Mozambique as project coordinator and specialist in building materials (burnt bricks, clay tiles, lime, fiber-cement tiles, and stabilised blocks). She was in charge of the administration of the project, training producers in improved methods of production and application, support to production units, research and investigation, information publication and establishing a fiber-cement tile production unit.

Ms. Beamish has worked for 3 years in Lesotho in a rural professional training centre. She established and organised courses in construction, carpentry, textile, and leatherwork. She also supported and trained the teachers and assisted in administrating the centre.

She has written 1 book and 6 manuals on various aspects of the production and application of building materials. In addition, she has 4 years experience in the use of computers (mainly Apple Macintosh) andtraining staff in the use of computers.

Education

1978-1979:
Architecture Association, School of Architecture, London, England
- Third World Architecture

1972 - 1979:
Carleton University, School of Architecture, Ottawa, Canada
- Bachelor of Architecture (B.Arch)

1974 - 1975:
Edinburgh College of Art, Edinburgh, Scotland
- Furniture and graphic design

Professional Experience

1989 to present
Trainer in Community Technologies,
Development Workshop, Luanda, Angola
- In charge of setting up a training centre specialising in technologies for the improvement of housing in Luanda squatter settlements.

1986 - 1989:
Vocational Training Specialist
Aurora Associates - BANFES Project/USAID, Thaba - Tseka, Lesotho
- In charge of the establishing courses in construction, carpentry, textile, leather and metalwork and some assistance in literacy and commercial courses; support training to instructors; and assistance in school administration.

1989 **Consultant**, Development Workshop, Luanda, Angola.
- Planned and prepared a report for a training seminar for the Secretary of State for Social Affairs on the "Vocational and Professional Training" for the Physically Disabled".

1986 **Consultant**, Development Workshop, Luanda, Angola.
- Preparation of a report for the Secretary of State for Social Affairs on the "Vocational Rehabilitation Programme for the Physically War Disabled in Angola".

1986 **Consultant**, OXFAM-Great Britain, Cabo Delgado, Mozambique
- Assisted in the practical aspects of establishing a new Oxfam programme in Cabo Delgado Province.

1981 - 1986
Project Coordinator/Building Materials Specialist
Provincial Department for Public Works, Cabo Delgado, Mozambique
- The work included: project planning and implementation including all aspects of administration, rural extension services for to support production cooperatives, training of production cooperative members, cooperative development and management, training of technicians at the national, provincial and district levels, investigation and analysis of improved production methods, and dissemination of information on the production of building materials.

1979 - 1981
Consultant, Ottawa, Canada.
Reports and publications: "Analysis of Energy Conservation Equipment", "Solarium Design", and "Community Planning and Appropriate Building Technologies" (Clients: Canada Mortgage and Housing Corporation, National Research Council/DEW Engineering, Department of Indian Affairs/Nepean Development Consultants).

1977, 1974: **Research Assistant**
Royal Ontario Museum, Lanai Expedition, Belize, Central America

1976: **Researcher**
Community Planning Association of Canada, Ottawa, Canada.

Languages

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Portuguese	Good	Good	Good
French	Poor	Satisfactory	Poor

Signature: Date:

Name: ROSA JOSE SILVERIO CORREA VICTOR

Profession: Economist

Years of Experience: 15 years with the People's Bank of Angola

Nationality: Angolan

Proposed Position on the Team: **Economist**

Key Qualifications

Rosa Victor is an economist at the People's Bank of Angola, and a leading Angolan expert in the field of housing finance. She is in charge of a team which is developing Angola's first housing credit policy, which will be the starting point for future laws in this area. Ms. Rosa Victor has recently participated along with Development Workshop in a United Nations Habitat meeting on housing policy, for which she prepared the main working document on housing credit.

Ms. Victor assumed the responsibility for the creation of a Credit Sector at the People's Bank of Angola, Budget Management Sector and the Technical Support Department and later on the Central Department of Credits.

She is in charge of the preparation of proposals for the Housing Credit Regulation Project, which is part of the current restructuring programme of the People's Bank of Angola.

Education

Liceu Nacional Almirante Lopes Alves - Lobito
Escola Industrial e Comercial Gago Coutinho - Lobito
Instituto Comercial do Lubango - Lubango
Instituto Comercial de Luanda - Luanda
Faculty of Economics - Luanda

Seminars
Caixa Geral de Depósitos - Lisbon - Portugal
Finafrica - Milan - Italy
Gosplan - USSR

Professional Experience

1989 - 1990
Principal Economist - In charge of the Central Credit Department. She attended a seminar at Caixa Geral de Depósitos in Lisbon-Portugal, in the area of Housing. She has set-up all the programme for the implementation of the housing credit policy.

1987 - 1989
Head of the Department - She set up and headed the Technical Support Department, the General Management Staff Department. She was also awarded a scholarship for a refresher course on planning and financial management in the USSR.

1985
Course on Banking Economics in Millan, Italy, in French.

1984
Sector Manager - Set up a Control and Budget Management Sector.

1983
Economist - Started working at the People's Bank of Angola in 1975, and in 1983 was moved to the credit sector of the National Bank of Angola for on-job training, and helped set-up the department of credits at the National Bank of Angola in the same year. She attended a refresher course in the area of housing credits in Lisbon, Portugal.

Languages

	Speaking	Reading	Writing
Portuguese	Excellent	Excellent	Excellent
French	Satisfactory	Good	Satisfactory
English	Poor	Poor	Satisfactory

Signature: Date:

Name: **FAROKH AFSHAR**

Profession: Planner/Architect

Age: 42

Nationality: Canadian

Years with Development Workshop: 17

Proposed Position on the Team: **Housing Affordability Specialist**

Key Qualifications

Dr. Farokh Afshar is co-founder of Development Workshop in 1973 and has already worked in more than 15 countries on problems related with housing and development in both urban and rural areas. Dr. Afshar has participated in missions on housing and urban development for the World Bank and other international agencies. Projects undertaken include the national housing policy, squatter upgrading, project management, financial affordability for housing and improvement of local building industries. Professional training is of great importance for Dr. Afshar; he is presently lecturing post-graduate courses on planning and development at the University of Guelph, Canada and has written a number of articles, and contributed to books on housing and development.

Dr. Afshar will participate in the project team as consultant on housing strategies and affordability and will assist in data analysis.

Education

PhD. Urban and Regional Housing Planning. Massachusetts Institute of Technology, USA, 1985

AADipl. (M.Arch.) Architectural Association, London, U.K., 1973

Professional Experience

1973 to present
Director - Development Workshop, a non-profit organisation which provides technical assistance for development, planning, housing and research in many Third World countries.

1986 to present
Associate Professor, University of Guelph, Canada, Faculty of Planning for Rural Development. Coordinates programmes and graduate courses on International Development and Rural Planning. Lectures on Housing and Regional Planning.

1987 - 1988
Planning Consultant, World Bank, Sector of National Housing Evaluation - Pakistan. Including urban squatter improvement, sites and services and housing projects. Studies of land ownership problems, financial affordability, and institutional support.

1986 - 1987
Planning Consultant, World Bank, Karachi Development Project, Pakistan. Supervised squatter settlement improvement component, including employment of consultants, organising tenders, incorporating non-governmental organisations and community participation.

1987
Consultant Planner/Architect, Aga Khan Organisation, Gujerat, India. Has worked with local non-governmental organisations on improved housing, rural building industries and questions of cost recovery.

1986
Consultant Planner, World Bank, Kerala Urban Development Project, India. Worked with the local Government and with housing authorities in the preparation of sites and service projects and urban upgrading of 3 cities. Trained local staff in the aspects of financial affordability, norms and infrastructure for the low-income groups.

1983-1985
Instructor, Massachusetts Institute of Technology, Cambridge, USA. Participated in the design and coordination of programmes on Regional and Urban Studies for Developing Countries. Lectured on the problems of cost, effects of employment and income on housing.

1980
Consultant Architect, Aga Khan Organisation, Jakarta, Indonesia. Assessed a World Bank project, Kampung Area Improvement Project.

1977 - 1978
Architect, Associate Researcher, Iran Institute for Rural and Peasants Studies, Teheran Iran.

1975 - 1977
Architect, Member of the Planning Commission, Selseleh Regional Development Project, Lorestan, Iran.

1973 - 1974
Architect Consultant, Ministry of Planning and Public Works, Muscat, Oman.

Languages

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Farsi	Good	Good	Good
Urdu	Good	Good	Good

Signature: Date:

Name: **MARIBEL C. GONZALES**

Profession: Planner/Sociologist

Age: 37

Nationality: Canadian

Years with Development Workshop: 4

Proposed Position on the Team: **Social Planner, consultant for the Socio-Economic Survey**

Key Qualifications

Maribel Gonzales has worked as a social planner for eleven years, including six in developing countries such as Angola, Philippines and Pakistan. Ms. Gonzalez has been responsible for carrying out socio-economic research, project planning, evaluation and training in the social development, housing and institutional development sectors. She was head of team for a social survey on Tondo Urban Upgrading Project supported by the World Bank in Philippines, and is presently the Development Workshop Executive Director. Ms. Gonzales will advise the local team on the design and analysis of the socio-economic survey.

Education

M.Public Administration, Harvard University, Kennedy School of Government, Cambridge, USA, 1980.

Fellow-Program: Urban and Regional Development Studies, Massachusetts Institute of Technology, Cambridge, USA, 1979.

B.A. (Bachelor of Arts): Sociology, University of Philippines, 1973.

Professional Experience

1987 to present
Executive Director, Development Workshop - Canada. Responsible for financial management systems, pre-project preparation and ensuring project funding.

1988
Consultant, Development Workshop. Studied Community Health Care in Luanda, Angola. Prepared a pre-feasibility study for the community health component in an urban upgrading project. Collected data on urban health conditions, assessed institutions responsible for urban health and made proposals for a more effective role of the community in management and planning within the project.

1986
Consultant, International Development Research Centre, Ottawa, Canada. She has participated as part of a Development Workshop team in two studies assisting the International Development Research Centre to develop a support programme for housing research. Evaluated the literature and identified research priorities including areas of land policy and funding, building industry, infrastructure and services. She has analysed research activities of Third World, Canadian and international housing institutions.

1984 - 1985
Consultant, Environmental Affairs Department, USA. Carried out research on soil contamination in neighbourhoods on the outskirts of Boston.

1982-1983
Consultant, United Nations Children's Fund (UNICEF), Islamabad, Pakistan. Assessment of training needs. Evaluated two district planning projects with UNICEF assistance in Ihelum and Artock, Punjab. Assessed the training and planning capacity and community participation at provincial and district levels. Prepared a project for a three-year programme for UNICEF assistance in district planning.

1980 - 1982
Planner, Environmental Affairs Department, Boston, USA. Provided support in planning, evaluation and research to the following programmes: child poison prevention, and dangerous waste management.

1980 - 1981
Assistant Lecturer, Harvard Public Health Faculty, USA. Graduate course on Health Planning for Developing Countries. Prepared teaching materials on health planning techniques: population projection, health services estimate costs and distributed health revenues, periodic cost analysis.

1976 - 1978
Head of Social Development Division, National Economic Development Authority (NEDA), Manila, Philippines. Collaborated with NEDA/UNDP/World Bank in Regional Planning Projects.

1973 - 1976
Project Director for Urban Planning. Development Academy of Philippines, Quezon city; Philippines. Research Coordinator, Tondo Urban Upgrading Project. (Manila major degraded urban compound, area: 137 hectares, population in 1975: 180,000). Coordinated the design and implementation of the survey for the feasibility study submitted to the World Bank. Acted as liaison person with community consultants and groups. Trained staff from the community.

Languages

	Speaking	Reading	Writing
English:	Excellent	Excellent	Excellent
Philippines:	Excellent	Excellent	Excellent
Spanish:	Satisfactory	Satisfactory	Satisfactory

Signature: Date:

Name: **EVA HAVELKA**

Profession: Civil Engineer

Nationality: Canadian

Years with Development Workshop: 2

Proposed Position on the Team: **Civil Engineer (supplementary) to accompany project's engineering and management aspects.**

Key Qualifications

Eva Havelka has 20 years of experience as Civil Engineer, including eight years of experience in Africa (Lesotho, Ethiopia, Sudan and Angola). Her professional experience includes working at community, non-governmental and governmental levels.

In her overseas work, Ms. Havelka has been responsible for the technical aspects of water supply, urban road traffic, land use, and building projects, including planning, monitoring, and assessment of the above mentioned projects. She also has experience in technical team monitoring (Ethiopia), providing technical input by training community workers (Angola), and institutional support and local counterpart staff training (Angola).

Education

M.Sc. in Urban Development Economics, University of London, 1984.

B.Sc. in Civil Engineering, Transport Engineering University, Zilina, Czechoslovakia.

Professional Experience

1990 to present
Chief Engineer for a CIDA funded Urban Upgrading Project in Lesotho. In charge of the preparation of the engineering component for an urban study for the two Maseru district municipalities.

1986 - 1989
Civil Engineer with Development Workshop in Angola, and member of the team of the Consultative Technical Department of Luanda Squatter Upgrading Office. In charge of the development of the water supply proposals for distribution through standpipes for a community of 10,000 persons; road traffic planning; evaluation of small building material production units and existing small construction enterprises; land use plan; and institutional support and local counterpart staff training.

1985 - 1986
Technical Coordinator with World University Service - Canada in El Fasfer, Dafur Province, Sudan. In charge of all technical aspects of the programme of domestic water supply in Northern Dafur.

1984 - 1986
Technical Director with World University Service - Canada in Dire Dawa, Ogaden, Ethiopia. Technical Director of the team which formulated the goals for the implementation of Ogaden Emergency Programme. In charge of monitoring, transportation and distribution of the project's equipment. Co-Supervisor of a 50 technician/workers team in Ethiopia.

1980 - 1982
Chief Engineer with the Ministry of Interior, Maseru, Lesotho. In charge of the operational and administrative activities of the Department of Public Works, including planning, building and road maintenance. Development of the regulation and control of civil construction works, public gardens and community facilities.

1975 - 1980
Engineer Coordinator of Projects with Hamilton City Corporation, Ontario, Canada. Development of long and short term programmes for road improvement, with a 5 to 10 year budget. Coordinator of works with public enterprises and departments and civil engineering and construction companies.

1968 1975
Civil Engineer with Hamilton City Corporation, Ontario, Canada. In charge of municipal works related to urban transport, development, project review and capital and current budgets.

Languages

	Speaking	Reading	Writing
Czech	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Portuguese	Good	Good	Satisfactory

Signature: Date: