

PN ABH-744
3000

AGENCY FOR INTERNATIONAL DEVELOPMENT PPC/CDIE/DI REPORT PROCESSING FORM

ENTER INFORMATION ONLY IF NOT INCLUDED ON COVER OR TITLE PAGE OF DOCUMENT

1. Project/Subproject Number

2. Contract/Grant Number

3. Publication Date

4. Document Title/Translated Title

5. Author(s)

1. David G. DeGroot
2.
3.

6. Contributing Organization(s)

7. Page(s)

8. Report Number

9. Sponsoring A.I.D. Office

10. Abstract (optional - 250 word limit)

11. Subject Keywords (optional)

1. Mozambique
2. Urbanization
3. Programming
4.
5.
6.

12. Supplementary Notes

13. Submitting Official

14. Telephone Number

15. Today's Date

16. DOCID

17. Document Disposition

.....DO NOT write below this line.....

URBAN ISSUES AND PROGRAM OPTIONS IN
MOZAMBIQUE

David G. DeGroot

Regional Housing and Urban Development Office for
Eastern and Southern Africa
(RHUDO/ESA)

United States Agency for International Development
November, 1989

Executive Summary

1. According to estimates by knowledgeable observers, the current population of Maputo and its immediate environs is 1.5-1.8 million.
2. Of this total, from 30% to 50% (540,000 to 900,000) are estimated to be living in absolute poverty. Almost half of the working age population in Maputo earns no income at all.
3. The structural adjustment measures of the Economic Recovery Program have had the greatest negative effects on the low income urban population. Incomes average only a little more than Mt.20,000 per earner monthly, while it is estimated that the average 8 member household requires Mt.32,000/month to avoid the absolute poverty threshold.
4. Living conditions in most low income bairros are very bad. Limited access to potable water and sanitary means of human waste disposal pose very significant health threats which, in concert with the nutritional deficiencies that characterize absolute poverty, place literally hundreds of thousands of Maputo's low income residents at extreme risk. As the low income population grows and ERF adjustments continue, the situation in Maputo can only grow worse.
5. This paper suggests a number of ways USAID/Maputo could help ameliorate the potentially catastrophic situation among Maputo's low income population. The overall strategy is to promote productive, labor intensive employment opportunities. The proposed efforts would contribute as well to preserving existing infrastructure, promoting urban/rural linkages, improving health, and bolstering small scale agricultural production within the low income urban population.
6. The analyses and conclusions included in this paper are very preliminary, and further research is obviously required. However, it is clear that the severe problems of the urban poor in Maputo and other cities require attention in the very near future and that USAID/Maputo could play a significant role in providing needed assistance without incurring an excessive management burden.

Table of Contents

Executive Summary	i
Preface	ii
Urban Population, Poverty and Unemployment	1
Low Income Settlement Characteristics in Maputo	2
Existing Programs and Responsibilities	7
Strategic Interventions to Alleviate Urban Poverty	11
Annex A: Bibliography	17
Annex B: Bairros Tour 10/31 and 11/4/89	24

Preface

As agreed upon with Carlos Pascual at the October 1989 REDSO scheduling conference in Nairobi, the purpose of this report is to provide an outsider's view of the interactive forces contributing to urbanization in Mozambique. On this basis, Dr. David DeGroot of RHUDO/ESA undertook a TDY to Maputo during the period October 30 through November 7, 1989. This report is intended to assist the Mission's evaluative process in preparing its Country Strategy Statement in January 1990.

Three main activities were undertaken. First, about 30 reports and studies were reviewed and more than 20 are briefly annotated in Annex A. This bibliography is not exhaustive; it is only intended as a starting point for the Mission. Second, 23 low income bairros around Maputo were visited, and observations and comments on each are contained in Annex B. Again, this annex is only a starting point in terms of both coverage and analysis. Third, twelve interviews with representatives of international donor organizations and GOM agencies were conducted.

Given the limited timeframe of the TDY and the the obvious constraints upon data collection in Mozambique, this report by necessity focuses on Maputo. As the report is intended for Mission use, no attempt is made to summarize herein general economic and other data of which the Mission is well aware.

Urban Population, Poverty and Unemployment

Virtually all current demographic data describing Mozambique are, understandably, fairly rough estimates. According to the World Bank, during the 1970-1985 period total population in the country grew by 50% to 13.85 million. At the same time, urban population grew by 175% to 2.2 million. By 2000, about 25% of the projected 21 million total population is expected to be living in Mozambique's cities (Urban Rehab SAR, pg.2). The Bank cites recent estimates of 8% annual growth rates in Maputo and very rapid, as yet unmeasured, growth in Beira due to revived transit trade there. Current estimates of Maputo's population vary widely from 1.12 million for the city proper (Min. of Commerce, 88:6) to 3 million for the greater Maputo area including Matola (interview with World Bank Rep). A plausible median estimate provided by Ministry of Construction and Water (MCA) consultants and UN officials is about 1.8 million for Maputo excluding the Matola urban area but including Maputo's immediately adjacent zonas verde (see Exhibit 1). Estimates of Beira's population in 1989 range from over 300,000 to 400,000.

Assuming that the 1.8 million estimate is correct, Maputo currently contains more than 12% of the country's estimated 15 million total inhabitants. It is obvious to even the casual observer that the great majority of these people are poor. Precise figures are hard to come by, but no knowledgeable observers disagree with estimates that at least two-thirds of Maputo's population, about 1.2 million people, are very poor.

It is precisely the low income urban population which has suffered the greatest adverse effects of the Economic Rehabilitation Program (PRE) implemented by the GOM, with IMF support, in recent years. The standard structural adjustment instruments - devaluation, removal of price and market controls, reduction of subsidies, tightening of credit and government expenditures - always have the greatest initial impact on low income earners within or on the fringes of the formal economy.

Green estimates that in 1988 50-60% of urban and peri-urban households were absolutely poor, i.e. "suffering from absolute caloric deficiencies and parallel lack of ability to afford very basic personal and household consumer goods" (Green 89:9). This translates to about 900,000 people in 112,000 households (8.05 pers./avg. HH) living in absolute poverty in Maputo alone. Green estimates that the absolutely poor segment of the city's population may have been reduced to about 30% of the total population as a result of the late 1988 minimum wage increase (then Mt15,000-17,000/mon). However, this reduction may be illusory as actual payment at the increased rate has been delayed in many, if not most, cases (ibid:11-12).

Although successive devaluations render income and price figures obsolete very quickly, Green calculated in February, 1989, that the minimum income required to sustain an average urban household of 8 members above the absolute poverty level was Mt32,000 per month (ibid:17). The Ministry of Trade's late '88 household nutrition survey in Maputo determined that median monthly salary per worker was Mt20,468 (pg.16).

Exhibit 1

Summary Population, Poverty, and Employment Data
for Maputo*

1. Total Estimated Population	:	1.80 million
2. Average Household Size:	:	8.05 persons/HH
3. Absolute Poverty Population(50%)	:	900,000; 112,000/HH
		(30%): 540,000; 67,000/HH
4. Estimated Low Income Pop. (67%)	:	1.2 million;
150,000/HH		
5. Low Income (18+) Working Age Population (45%)	:	545,000
6. Working Age Population w/o Income (48%)	:	261,000
7. Potential add.earners per low income household	:	1.74
8. Low income dependency ratio	:	3.26 to 1

Currency Conversion: Meticaís 813.00 = US\$ 1.00

*All sources cited in text.

More surprisingly, however, this survey determined that 48% of the working age population, liberally defined as 18 years and above, reported earning no income at all. While there are obvious reasons for the unemployment of many working age, low income Mozambicans (illness, injury, dislocation and lack of skills, etc.), this is an unusually high unemployment rate for low income populations in developing cities. In other countries it is not uncommon for low income households to have dependency ratios of about 2 to 1 (as in southern Philippine urban slums). With the median age in Maputo at about 15 years, the working age population probably constitutes 45% of the 1.21 million low income population or 545,000 potential workers. With only 52% reporting incomes, the dependency ratio among Maputo's low income population is a rather high 3.26:1.

Given that there are about 150,000 low income households in Maputo and 261,000 potential workers without income, there is a theoretical additional employment capacity of 1.74 earners per low income household. Given the minimum wage of Mt17,000 added to existing average income of about Mt20,000 per earner, the addition of just one minimum income per low income household in Maputo could theoretically elevate all households comfortably above the absolute poverty level.

Although the foregoing analysis is somewhat involved, it is intended to point out, based on the limited data available, that: a) there are very high levels of poverty in Maputo and, presumably, other urban areas; and, b) required macroeconomic adjustments have exacerbated urban poverty to life threatening levels for hundreds of thousands of people.

Hence, promotion of employment among the low income working age population would be likely to have an unusually strong impact. It would alleviate poverty as well as stimulate domestic production, a stated goal of the ERP. Succeeding sections of this paper will examine low income living conditions in Maputo, existing urban oriented assistance programs, and areas for potential additional assistance.

Low Income Settlement Characteristics in Maputo

The low income settlement pattern in Maputo is somewhat unusual in terms of its spatial continuity and the quality of land occupied. In most developing cities informal settlements tend to be located on marginal land (foreshores, mountain slopes, rights of way) in an opportunistically dispersed pattern in and around the formal built-up areas. In Maputo, however, the Portuguese authorities were content to roughly designate a broad area beyond the "cidade cimento" as the residential zone for household servants. In this broad swath arose the original

"canico" housing of the low income Africans, followed by an outer green zone ring. Over time, of course, nominal green zone areas have been widely and informally settled.

The low income residential areas of Maputo may be broadly categorized in three types. The old canico bairros correspond roughly to the original residential areas for servants. These bairros include Polana Canico A, Maxaquene A-D, Urbanizacao, Mafalala, parts of Hulene, Mahotas, Laulane, Jose Cabral, Inhagoia, as well as Accordos de Lusaka and Zona Verde across the Vale do Infulene. The old canico bairros have limited basic services including some tarred roads and piped water, semi-permanent housing, and somewhat regular subdivisions. these older low income bairros are located in close proximity to the cidade cimento.

The new canico bairros are mainly located in areas formerly designated as green zones. These include parts of Polana Canico B, Laulane, Hulene, Mahalzine, Jorge Dmitrov, Bagamoio, Accordos de Lusaka, and Zona Verde. The new canico areas have no paved roads, very limited potable water supply, and little or no electricity. Houses are almost all constructed of canico with metal or plastic and wood roofs. Settlement densities vary greatly, from low in the Ferraviaria section of Laulane to very dense in Dmitrov which appears to be a "deslocado" reception area. A major concern in the densely settled new canico areas is the apparent lack of sanitary latrines. Another large new canico settlement on the escarpment east of Julius Nyrere in Polana Canico B also appears to be contributing to serious erosion problems.

New low income bairros constitute the third notional category of poverty stricken residential areas. These bairros, including parts of Xipamine, Chamanculo, Bairro Indigene, Jardim, Zona T3, and a small portion of Dmitrov were formerly inhabited by middle and low income Portuguese and are relatively well serviced with permanent structures including both flats and detached houses. Bairro Indigene, bounded by the main crosstown drain and Av. de Angola, is exceptional in that it was apparently the single residential subdivision developed by the colonial administration for black civil servants. In all cases, the original infrastructure and houses are now badly deteriorated as current occupants are not charged rents sufficient to fund maintenance requirements and probably cannot afford to pay much anyway. Hence, substantial fixed investment is being lost, a situation which the Bank, in its Urban Rehabilitation project, correctly identifies as requiring high priority attention in a country with so little in the way of fixed assets.

All of the low income bairros in Maputo appear to have at least one pressing problem in common: lack of sanitary means to

dispose of human waste. In the new low income areas, this problem stems from the general disrepair of the city's piped sewerage system. This is being addressed by the Urban Rehab project.

In the old and new canico bairros, however, the primary sanitary means of human waste disposal are lined pit latrines. As the soil is relatively stable in most areas of Maputo, latrine walls can be adequately lined with a locally produced lime mixture and a concrete slab sealed over the top. In recent years a cooperative latrine slab production program, known as Latrinas Melhoradas, was encouraged by government and supported by several interational aid organizations. After initial difficulties and eventual successes, it appears that these coops, in Maputo at least, have been virtually put out of business by the lack of affordable cement in the country (see Hougard).

To be at all sanitary, pit latrines must be sealed with some impermeable surface. Alternatives to cement may be possible; for instance, wooden framed, reinforced lime/sand versions of cement slabs might work. As population densities continue to increase in the canico bairros, increased morbidity resulting from the usual gamut of diseases related to improper human waste disposal is virtually assured unless preventive action is taken.

Of course, there are a variety of other potentially life threatening environmental problems evident in both the old and new canico bairros. Deslocados who have recently settled, in defiance of government eviction orders, on the old city dumpsite southwest of the crosstown drainage canal between Avs. de Angola and Accordos de Lusaka are probably susceptible to all manner of skin and other diseases. Residents of the older canico bairros which have deeply potholed, formerly asphalted roads may risk malaria due to impounded standing water. Few residents of the new canico bairros have easy access to a reliably potable water supply; the absence of wells in relatively low density bairros like Laulane and Mahotas severely limits on-plot gardening potential. Residents on the denuded escarpment in Polana Canico B exacerbate erosion and may suffer from land slides in the rainy season. Lack of affordable transport renders commuting from most of the new canico bairros to the putative employment centers in the cidade cimento very expensive.

None of these problems is uncharacteristic of those suffered by low income populations in many developing cities. However, the extremely high levels of absolute poverty and nutritional deficiencies in Maputo's low income bairros in combination with one or more of these environmental health risks can, and

probably does, produce substantial disease, disability, and death among the urban poor in Maputo.

In sum, the living conditions in the pervasive low income bairros of Maputo are very bad. Without more detailed fieldwork it is not possible to measure the effects of these conditions on the urban poor population. A rudimentary effort to begin assembling the kind of inventory required to both identify specific needs and possible areas of assistance in the low income bairros is presented in Annex B. At this point, all that can be said with any certainty is that more than of one million people, hundreds of thousands of whom are unemployed, are living in Maputo with little or no access to basic urban services and very limited prospects, under current conditions, of being able to engage in productive activities.

Existing Programs and Responsibilities

In contrast to the substantial amount of GOM/donor resources and coordination devoted to emergency relief activities for the rural majority of the population, direct assistance to the urban poor population appears to be limited. This apparent imbalance may be explained by the common perception of greater need in rural areas. However, as the effects of PRE are increasingly felt in the cities, this perception should be reexamined. Following is a brief analysis of government responsibilities and assistance programs now operating within urban areas.

A. Government Responsibilities and Authority

As in many primate developing cities, government responsibilities for administration and public works in Maputo are highly fractionated between national and local authorities. The Portuguese exodus left almost all technical positions in government unfilled. Progress has been made in restaffing in recent years, but many key positions are either vacant or occupied by expatriate "cooperantes" who have limited authority in policy formation and implementation.

Exhibit 2 shows the Maputo City People's Assembly as restructured in 1983 (Dow 89:98). The complex internal division of responsibilities among Directorates is evident, with at least seven different offices involved in the planning and delivery of basic urban services, water, and housing. The Directorate of Construction and Urbanization (DCU; Exhibit 3; *ibid*:101) is apparently the most important of the offices in terms of actual planning and project implementation. Whether DCU's apparent predominance has developed by design or default is unclear.

In any event, the Maputo local government appears to accomplish very little in general. It has almost no locally generated resource base and few prospects of developing one, as most of the inhabited land in the city is not properly registered or privately owned. Even if it were, most occupants are too poor to pay much in the way of real property taxes. Thus, the local government functions, such as it does, mainly on subventions from the national budget.

Although national government responsibilities for urban planning and development seem to be similarly fractionated, the advent of the World Bank's Urban Rehabilitation project has brought about a modicum of institutional focus. The Urban Rehab project office is located within the Ministry of Construction and Water (MCA) and is well staffed. Also found within MCA is the PROHABITA project supported by UNDP, the goal of which is to develop a national housing policy in conjunction with the Physical Planning Institute (the national planning agency).

At this point, these two projects seem to form the distinctly limited core of GOM's efforts to assemble a coherent urban development strategy. One major objective of PROHABITA is to develop policies governing the nationalized housing stock (which includes almost everything left behind by the Portuguese throughout the country), and the Bank project is making a start on rehabilitation of a small portion of this stock in Maputo and Beira. Thus, the means to at least one policy end are becoming clearer. The following paragraphs will examine other ongoing efforts which may support creation of a systematic approach to urban development.

B. Training of Technical Personnel

At present there are only 3 Mozambican architect/planners in the country, one of whom recently retired. However, with support from the Italian government, the Mondlane University will next year graduate its first class of about 20 architects and planners. UNICEF supports a good mid-level training program for water system managers, and there are undoubtedly other technical training programs in place of relevance to urban planning and development. However, it seems clear at present that there is little coordination among these scattered programs and that the sum of the parts is not at all equal to the total need. The overall shortage of trained Mozambicans is ameliorated, but to some extent perpetuated, by the widespread use of cooperantes in government. In the continuing absence of trained local personnel it is highly unlikely that government will develop an effective, ongoing urban management capacity.

C. Basic Planning Capacity

In addition to the lack of trained personnel, there is a widespread lack of basic data and tools required for effective urban planning. Deficiencies range from antiquated aerial photos (where they exist at all) to absent socioeconomic data bases to outdated base maps and deficient hardware and software. UNDP and a number of bilateral agencies are providing planning assistance to a variety of agencies including MCA, the Physical Planning Institute, the Cadastral Department of the Surveyor's Office, the Maputo local government, and the Dept. of Roads and Bridges. UNDP appears to play a coordinating role in this field, outside of the Bank's projects, but a major constraint is government's limited technical absorptive capacity.

D. Promotion of Economic Productivity

Attempts to improve industrial and manufacturing productive output are underway at two levels. At the macro level, the Bank is pumping more than \$140 million into rehabilitation of large and medium scale industries in concert with implementation of a government divestiture program. UNIDO is also working with 10 key medium scale industries, and a plethora of studies have been recently completed (including one by DHS for USAID/Maputo) or are underway. While this type of capital intensive investment in rehabilitation of the industrial base is clearly needed, returns in terms of increased employment and income for workers are not substantial in comparison to the unemployment problem in the urban areas.

At the small scale end of the spectrum several UN agencies have been active. UNDP has worked with MCA's Dept. of Roads to implement very labor intensive road maintenance and rehabilitation programs in four provinces, and they are studying the application of this apparently successful approach in urban areas. UNICEF has done impressive work with women's farming cooperatives in peri-urban zonas verde in Maputo and Beira, and these coops have begun to branch out into other productive enterprises.

As previously noted, there have been fairly successful construction and housing cooperatives active in Maputo and other areas in the recent past. In addition to latrine slabs, these coops have produced a variety of local content building materials including several types of bricks, roofing tiles, and ceramics. Entries 1 through 5 in Annex A provide information on these cooperatives and the many international groups from which they have received assistance in recent years. It appears that these coops, at least in Maputo, are now quiescent mainly as a result of the lack of affordable cement. Their revivification may present an excellent opportunity to encourage labor intensive production.

Of particular interest is a comparatively minor component of the Bank's Urban Rehab project which is providing \$3 million in foreign exchange for small scale, semi-formal businesses. This subproject is managed by the Ministry of Labor (MoL), and loans of up to \$5,000 are to be provided through the Banco Popular Desenvolvimento (BPD), the Bank of Mozambique, and Standard Total. The project seeks to assist the hundreds of small and micro enterprises which require a few imported spare parts, machines, hand tools, etc., to increase their productivity. Demand appears to be very great. Mr. de Vletter, the ILO consultant provided to the project, estimates that 600 loans of \$5,000 each will easily consume all of the project's foreign exchange within CY '90. No provision for replication has been made; the loans will be repaid in local currency to local banks. This very interesting project deserves close scrutiny. If each of the six hundred loans eventually produces only 5 jobs (an estimate which the consultant finds quite plausible), at least 3,000 families in Maputo may be lifted from absolute poverty.

E. Basic Health

Investigation of this critical aspect of urban life was limited to one very interesting interview with Ministry officials who are highly attuned to the growing potential for epidemic problems among the urban poor. In a very well organized presentation the officials identified two outstanding needs: 1) the refurbishment of district/general hospitals (such as the one at Machava) to take pressure off the central hospital and 2) the training of midwives. Apparently, the past emphasis of GOM on eliminating traditional "curandeiros" has been all too successful. The Ministry is now seeking donor support to establish a midwife training program in order to promote community based health services.

This report is not definitive in its coverage of existing programs to alleviate urban poverty in Mozambique. It is clear, however, that there is little potential for effective GOM leadership in the near future and that the existing donor-assisted programs are largely uncoordinated. On the other hand it is also clear that simple, direct opportunities for high impact assistance exist to alleviate the worsening situation among the urban poor.

Strategic Interventions to Alleviate Urban Poverty

Although there is clearly a major policy agenda to be pursued with government in order to address the root causes of urban poverty, it is unlikely that this is an appropriate activity for AID/Maputo due to the Mission's heavy commitments in other areas. At a practical level, the key elements which must be addressed are: a) employment promotion to increase household income and b) basic improvements in low income living environments to ameliorate health threats. With these elements in mind, a variety of options for strategic interventions are suggested below.

A. Urban Upgrading and Small Enterprise Support

1. Promotion of Labor Intensive Production to Improve Living Environments

Under this program, AID could primarily provide commodity imports. Of particular importance would be cement, equipment for deep wells, and machines to fabricate building materials. Working through construction and housing cooperatives and/or women's coops in zonas verde and providing a supply of affordable cement could revive the Latrinas Melhoradas movement. A goal of 25-50,000 new latrines would be realistic.

Provision of deep wells to selected low income bairros lacking ready access to potable water supply is also necessary. At least 100 such wells could easily be required. Finally, provision of brick/block and roof tile fabricating machines would not only generate substantial employment opportunity but also meet a growing demand, as canico is now increasingly difficult to find within a reasonable distance from Maputo, and Galvanized Iron roofing sheets are imported.

In notional terms, the funding requirements for the program outlined above might be as follows:

1. 50,000 latrine slabs at 2/50kg bag	
25,000 bags at \$5 ea. landed	\$125,000
2. 100 deep wells including spares at \$6000 ea.	\$600,000
3. 200 brick/tile machines at \$900 ea.	\$180,000
4. TA and supervision	\$100,000
<u>Estimated Total Cost</u>	<u>\$1,005,000</u>

The employment generated by this program would be significant. Each latrine slab would require 3 to 4 person days of work, or about 548 person years to build 50,000 units. Each tile or brick making machine will create direct employment for 5 persons at full production, or 1,000 permanent jobs for 200 machines. Significant additional job creation in labor intensive construction would also occur. Although drilling of deep wells would not be a significant employment generator, if each well produced a flow of 25 gallons per minute (12,000 gallons per 8 hour day), it is reasonable to assume that 50 to 100 families per well might be able to practice backyard gardening as well as gain access to potable water. Thus 100 strategically placed wells could allow 5,000 to 10,000 families to produce additional food year round. All of these estimates are obviously very rough. Some of the costs, such as drilling, might be payable in meticaís. Direct management responsibilities could be largely assumed by UNICEF, other resident missions, or RHUDO. Very good technical assistance for brick and tile making is available from several sources in Nairobi. In short, the Mission's program management responsibilities could be largely limited to direct administration of the commodities imports component, a task with which it is very familiar, and general oversight of the balance of the program.

2. Supplemental Financing for Microenterprise Foreign Exchange Requirements

The Mission could buy into the existing World Bank Urban Rehab program, which has major employment implications, at very limited "cost" in terms of Mission program management responsibilities. The employment payoff would likely be very high. Every \$1 million additional foreign exchange would provide approximately 1,000 jobs. Reginald Green recommends particularly that financing be made available for the lease/purchase of utility vehicles and pick-up trucks to strengthen urban-rural marketing linkages which are now very limited due to lack of vehicles.

3. Labor Intensive Infrastructure Rehabilitation and Maintenance

Under this activity, USAID/Maputo could support repairs and maintenance in low income bairros where deteriorated infrastructure now causes health and transport hazards. Private labor contractors could be encouraged, in keeping with AID's emphasis on promotion of the private sector. This approach could expand upon UNDP's current rural oriented program. Very little foreign exchange would be required, and local currency could be used to pay workers. Assuming a wage of Mt.20,000 per person month, Mt.20 million would be required monthly to employ 1,000 workers in Maputo.

4. Local Assembly of Bicycles and/or Motorellas

There is a severe shortage of affordable transport in Maputo. Although import of bike and motorcycle parts might require foreign exchange, it is also possible that barter agreements or donations could be worked out. Provision of cheap intra-city transport would spur local economic activities in a number of ways, including the transport of goods and large employment multipliers in maintenance and repair. Once again, Asian examples abound.

5. Recycling of Metals

Cursory inspection of the dumpsite in Hulene and the Sucata junkyard in Bairro Jorge Cabral indicates that there is an abundance of scrap metal around Maputo. In many countries recycling of this metal provides many jobs in collecting, sorting, processing, and working the resulting metal into cabs for motorellas, utensils, farm implements, etc. Although none of these jobs is aesthetically pleasing, and there is a fair amount of technology and capital required to set up foundries, recycling does reduce import requirements.

B. Other Programmatic Opportunities for Employment and Economic Development

1. Training of Midwives

This program is virtually "on the shelf" at the Ministry of Health, looking only for donor support. The cost involved would be mainly in paying for trainers and some equipment, perhaps amounting to \$500,000 to \$750,000 over 3 or 4 years. The Ministry seems to have several other very good programs awaiting funding, and it is strongly recommended that the Mission investigate further. "Women in Development" programming opportunities may be indicated.

2. Reafforestation for Fuel

Large areas of the zonas verde within the city's security perimeter appear to be underutilized; the northern portion of Bairro Zimpeto is a good example. Firewood is the main source of energy among the low income population in Maputo and is now becoming scarce and expensive. Farming of fast growing species, such as the giant ipil-ipil, might provide both jobs and cheap fuel. Ipil-ipil wood makes good charcoal and the foilage is good animal fodder. Obviously, further research would be required to determine suitable species, but a program such as this would be very low cost. A relatively high level of coordination with GOM officials who control land would be required.

3. Mariculture

The tidal flats behind the Costa do Sol appear to have excellent potential for mariculture, i.e. the raising of fish, shrimp, and crabs. Although this is not a highly labor intensive undertaking, it need not be particularly capital intensive and can have a high nutritional payoff. Simple earthen dikes are erected to impound water, fry of selected species are secured, and feeding can be undertaken at various intensities. Abundant experience is available in Asia. This may be a suitable activity at many places along the country's extensive shoreline.

In sum, there are programming possibilities which could alleviate unemployment and, thereby, poverty in Maputo and other urban areas in Mozambique. Even if the war were to end tomorrow, it is unlikely that much of the country's urban population, amounting to 20% or more of the total, would rush back to the countryside. As PRE moves inexorably forward, the low income urban population will be increasingly at risk. The very real prospect of epidemics of cholera or other diseases is daunting. While AID/Maputo obviously cannot be expected to solve these problems on its own, the clear need for assistance virtually at the Mission's doorstep certainly justifies closer examination of urban poverty in Mozambique and programming of assistance wherever possible.

ANNEX A

Bibliography

1. Hooper, Charles Case Study on Messica Construction
1986 Cooperative; Mazingira Institute, Nairobi

Interesting short study of attempts, fairly successful, to develop construction cooperatives at the new town of Messica connected to IFLOMA's Messica Forestry project in the Beira Corridor. The "popular housing brigades" received direct and indirect support from SIDA (Sweden), International Volunteer Service, and IFLOMA. Making of "burnt" bricks and roof tiles has been pretty successful, and cooperatives have diversified into carpentry, farming etc.

2. Ministry of Agriculture, State Secretariat for Cotton
1985 Construction Manual:
Housing for Communal Villages

The document itself is not very informative especially as my copy lacks drawings referred to in the text. It is interesting from the point of view that the State Sec. for Cotton, Habitation Department was apparently successful in assisting construction of several hundred houses around Nampula. A good variety of materials were used including sun dried bricks, stabilized soil-lime bricks, and burned bricks, most of which were produced locally. It would be useful to follow this up with the Ministry to see what's happened in the last four years.

3. Magaia, Fulgencio Production of Building Materials
1987 in Mozambique: Bricks & Ceramics;
Mazingira Institute, Nairobi

The author works(-ed) in the Department of Building Materials at the Ministry of Construction and Water. This brief article is short on facts but intriguing in that it again indicates substantial efforts in the small scale building materials sector. International support has come from UNDP, UNIDO, CUSO-SUCO, Frederik Ebert Foundation, and CIMADE. About 60 production cooperatives had been established by 1986 with only 5 turning out over 200,000 units p.a. But, as the author notes, investment costs per job in this type of low tech, artisanal industry are 1/40th the requirement for large scale industry. As usual with cooperatives, the main problems are in management.

4. Jenkins, Paul Interventions in the Area of Housing in 1989
Post-Independent Mozambique: An overview
Mazingira Institute, Nairobi

The author has worked in Mozambique since 1980 and is currently assigned to the PROHABITA office of Ministry of Construction and Water under Habitat sponsorship. Papers give a brief but useful summary of GOM organizational approaches to national housing programs. He recommends continued work in developing housing and construction cooperatives as well as the formation of a new Housing Finance Cooperative, which may receive support from Swedish NGOs. Jenkins is very knowledgeable and his emphasis on assisting local housing NGO development is sound, if difficult.

5. Hougaard, Soren Construction and Housing Cooperatives 1989
in Maputo; Mazingira Institute, Nairobi

The author was a cooperante with, I believe, the Construction and Town Planning Directorate (DCU) of Maputo City Council. He had just returned to Maputo in November 1989 but I couldn't interview him; he may be coming back to work for GOM. The paper has a useful discussion of Basic Sanitation Programme which fostered delivery of pit latrines - "Latrinas Melhoradas" - in the peri-urban areas of Maputo. Rising costs of cement have curtailed this once very successful program. Paper also discusses the experience of two housing cooperatives at Bairros Polana Canico and Laulane. Both achieved some modest successes with donor support from CUSO/SUCO, the Dutch NGO Fundacao Eduardo Mondlane, Oxfam-Canada, Danida, the English NGO "War on Want", etc. Again, basic management problems have adversely affected the cooperatives and the fractionated nature of donor support has also probably been inadequate. The Self-Help Construction sector of DCU deserves investigation and possible programmatic support. The author should be interviewed.

6. Cossa, Henrique C.P. Building Materials Cooperative in 1989
Mozambique
Mazingira Institute, Nairobi

A semi-legalistic treatment of these cooperatives with a tantalizingly brief reference to apparently successful cooperative in Cabo Delgado. The author apparently works somewhere in GOM.

7. Gross, Daniel R. Mozambique Social and Inst. Profile;
1989 Development Alternatives Inc, Wash. DC

A rehash of sources, of limited utility to all but outsiders like me.

8. Russo, A.M. & D.B. Kaatrud Bridging the Gap: 1988 Urbanization as a Development Strategy for Mozambique MIT Master's Paper

Some interesting information on municipal management in Mozambique, as well as on land laws. Advocates "corridors of urban development" with extended peri-urban zones verde. This is an interesting idea which is, unfortunately, not well explicated in the paper. However, there is clearly a need for development of a national urban development strategy and attendant institutional planning capacity.

9. UNDP Establishment of Labour-based Road Improvement and Maintenance Systems: Project Document 1987

This \$1.6 million UNDP project supports establishment of very labor intensive construction brigades in provinces through the Department of Roads and Bridges (DEP) of the MCA. The project is based on pilot work done by the ILO with NORAD and SIDA support. Mr. D'Angelo says UNDP will support this apparently successful program for one more year (i.e. their FY91) and is looking for other donor support thereafter. Operating at present in Inhambane, Cabo Delgado and Gaza, the project appears to create a good deal of employment, and could be very suitable for extension to urban canico towns where labor is readily available and much infra is in dire need of construction and maintenance. However, the project is basically public works oriented and would appear, therefore, to be on-budget. Certainly bears further investigation.

10. Pinsky, B. Territorial Dilemmas: Urban Planning and Housing in Independent Moz. 1983
World University Service, Copenhagen

Although now dated, the paper contains a number of interesting case studies in Maputo, Xai-xai and Nampula. The paper points out GOM's real lack of organizational capacity to deal with urban development, a problem which doesn't seem to have improved much since 1983. The continuing division of labor between several national agencies and departments within local government appears to be a major constraint. It would be very useful to undertake a detailed institutional assessment of various responsibilities for planning, housing, and provision of basic urban services as things stand today within GOM.

11. Meeuws, Rene Mozambique: Report on Socio-economic
1985 Development & Environment Problems; State
 Sec. for Physical Planning

This report is dated and of limited utility. It is an interesting example of GOM attempts to start dealing with national planning; subsequent efforts should be investigated by AID.

12. Green, Reginald Poverty Assessment Paper; Ministry of
1989 Finance, supported by UNICEF

This fascinating paper makes a number of potentially useful observations on urban conditions in Mozambique. While the author gets a bit carried away with derivative measurements of absolute (structural and conjunctural) poverty, his point that maximization of labor intensive employment opportunities is critical in Maputo at this time is well taken. Based on the recent household surveys in Maputo and Tete, he sees absolute urban poverty at levels of 30% to 57% of all urban households, and is mainly concerned with helping government to define better systems for setting of minimum wages and abastacimento rations to mitigate effects of the IMF adjustment program. He argues that urban near- and absolute poverty is so pervasive that introduction of traditional cost recoverable basic service programs as part of structural adjustment is quite hopeless as almost noone has anything extra to spend. He emphasizes GOM cost savings through increased efficiency rather than collection of small fees. He correctly advocates upgrading of existing urban settlements rather than construction of unaffordable serviced sites with cores as in the Urban Rehab project. He estimates only 35% of Maputo's population has access to safe water. He correctly notes that very poor drainage, accumulation of rubbish, and lack of sanitary latrines are related to increased urban mortality and morbidity. Other ideas - peri-urban reforestation with quick growing species (i.e. ipil-ipil) for energy; promotion of tradesmen through 5 year lease-purchase utility vehicle schemes which don't require full GOM counterpart upfront; wider introduction of locally assembled, cheap bikes might be another; simplified systems of urban poverty alleviation targetting. Overall emphasis on employment promotion through labor intensive rehab and maintenance is key.

13. World Bank Business Environment Study
1989

This study is one of several currently being undertaken or recently completed by a variety of international agencies. It is notable mainly for the extent to which it documents the extremely limited job creation potential of the formal industrial sector in Mozambique, particularly given the huge rehabilitative investment requirements. While improvement of trade deficits through increased industrial export output is clearly needed, very little near term employment will be created.

14.. World Bank Urban Rehabilitation Project SAR
1988

This is essentially a non-replicable, one-off project which follows the economically rational course of preserving existing infra investments. The small upgrading and serviced sites project components are mainly devoted to relocation of families to be displaced by apartment/house renovations and only indirect cost recovery thru expatriate rents will be achieved. Hence, the project provides no basis for continuing programming. Of interest is a small (\$3m) micro enterprise foreign exchange financing scheme being run through the Ministry of Labcr and BPD. At the maximum rate of \$5000/loan, only 600 loans will be generated and the component's expat advisor believes foreign exchange capital will be exhausted within CY90. This component bears close monitoring, as its potential for employment generation within the semi-formal business sector seems excellent. Vehicle financing advocated by R. Green and others might be shoe-horned in and this could constitute a high impact, low management opportunity for AID.

15. UNICEF Five-Year Master Plan; 1989

Although I've only been able to examine excerpts from this plan, it looks pretty good on the surface and presents an interesting array of program possibilities for donors. The water and sanitation and Green Zones components are of particular interest. Closer study by the Mission is required, but program opportunities are clearly available and UNICEF seems very flexible in terms of fitting project design to donor requirements.

16. UNICEF a. Integration of Women in the Development Process
1988 Support to women in the Green Zones of Beira
- 1988 b. Strengthening the General Union of Women's
Agricultural Cooperatives
- 1986 c. A Socio-Economic Survey of the Cooperative
Movement of Women Food Producers in Maputo
- 1988 d. Joint Nutrition Support Program Mid-term
Review Report

All of these reports deal with UNICEF's fairly ambitious program to support women's cooperative activities in the green zones of Maputo and Beira. These projects have received support from GOItaly, the General Union of Coops, and others. The reports are written in the inimitably obscure UN style, but sifted through and pieced together they describe what appears to be a diversified, successful program to improve food security and nutrition and promote employment particularly among women in the green zones. There are some good programs here which could certainly be discussed further, in greater detail with Mr. Coluane of UNICEF. AID support could be limited to commodities and underwriting of TA, or could be expanded to assisting coops to diversify productive activities to include building materials production, etc.

17. Ministry of Trade I Inquerito Nutricional e do Orcamento
1988 Familiar - Maputo

As a government survey, some of the figures are probably a bit slanted but this data is pretty much all there is for Maputo and Tete (I didn't review the latter). The survey found only 100,000 or so deslocaçoes in greater Maputo, which is clearly contradicted by even a rudimentary "windshield" survey of the thousands of new canico houses around town. Average household size is given as 8.05 and median age about 15. Workforce is defined as 18+ years, fairly liberal considering that most teenagers do not appear to be in school. Of the workforce sampled 42% declared no income at all, a very high percentage for urban areas. At the time of the survey, only 34% were earning salaries of mt.12,000 or more monthly. Only 30% of households had electricity. The survey strongly recommends development of suburban green zones to promote family and coop family.

18. World Bank Summary of Local Government Management Seminar;
1988 by Charles Downs (cons.)

This summary is remarkable mainly for the extent to which it demonstrates the practically nonexistent authority, capacity, and financial resource base of existing local governments. Discussions ranged over the usual topics: decentralization of authority, greater budget allocations, local taxes, training of staff, etc. It is unlikely that local governments will become effective managers of local development in the foreseeable future, although steps in this direction should certainly be supported.

19. Kalliora, Panagiota Study for the Upgrading of Matola A2
1988 (exact title unknown); Department of Building Function Analysis, Royal Institute of Technology, Stockholm

A rather tortuously written plan for upgrading a portion of a bairro in Matola near the cement plant. The technical quality of the document obviously suffered in translation to English. Still, this type of plan is a model (albeit imperfect) of the kind of neighbourhood based exercises which will inevitably have to be undertaken some day if effective upgrading of basic services is ever to be achieved throughout the canico towns in Maputo.

20. Dow, Susan Urban Settlement Strategies in Mozambique -
1989 A Case Study of Maputo; Flinders University of South Australia

This MA thesis is well written and provides a useful perspective on LDC urban settlement strategies in general. It also contains a number of useful figures and tables, along with a much needed overview of Maputo City land use, planning and housing administration. The author notes lack of linkages between economic and physical planning in municipal government. She also notes that beyond the Bank's urban rehab project there is no concerted program to deal with upgrading of existing canico towns wherein resides the majority of Maputo's population. She critiques division of planning responsibilities within the Maputo local government. She notes that the nationalization of land in Mozambique presents some unique opportunities for planning and plot disposition. The Land Law and Land Regulations governing cadastial and title records are very poorly implemented, and the majority of Maputo's residents are, as a result, technically squatters. GOM's untenable diversion of scarce housing resources to construction of inappropriately high standard civil servant housing is duly noted. The GDR supported police housing project (500 units) in Mahotas is a prime example.

Bairros Tour 10/31 & 11/4/89

In company with Francisco Manzini I undertook a quick survey of a number of low income residential areas in and around Maputo. Francisco grew up in Hulene and Mavalane and proved to be an excellent source of information about almost all of the low income areas we visited. Hereunder is a localized listing of my observations and comments incorporating Francisco's informed tour guidance.

First Leg

1. Polana Canico A- this is an old, well laid out settlement with predominantly durable (i.e. bricks and/or plastered walls, g.i. sheet roofs) structures. The Bank's urban rehab project proposes to develop serviced infill sites in this area. Electricity is available as is city water and most of the older houses seem to have latrines. The bairro starts immediately after the University and runs all the way up to Avenue des FPLM and/or the railroad tracks to the north, bounded on the east by Nyerere and the West by Lenin. The development potential of the area appears excellent given the established layout, reasonable density, and apparent relative prosperity, all explaining the Bank's site selection.
2. Mazaquene C and D - bounded on the east by Lenin, these bairros are older settlements apparently very similar in nature to P. Canico A, although not appearing to be quite as densely settled and having a variety of commercial uses interspersed particularly at the northern end nearing the FPLM intersection.
3. Bairro Ferraviaria - so named because it commences immediately after the railroad tracks intersect Nyerere. Most of this bairro was originally intended as zona verde and, while it is well established, layouts are irregular and it is clear that numerous canico structures and their inhabitants are relatively new arrivals to the area.
4. Hulene - most of this bairro, which commences on the western side of Nyerere across from Fenaviacia is also well established excepting the easternmost strip (abutting Mavalane in the south) which was apparently intended to be zona verde. In this strip settlement patterns are more haphazard and roads are not tarred as they are (although in a general state of disrepair) in the interior of the bairro proper. To the north of this bairro, is a functioning dumpsite which is remarkable for the amount of readily salvagable metal obviously apparent.

In many Asian countries this metallic detritus is salvaged for reprocessing providing numerous (if aesthetically displeasing) jobs and a local recycling industry which significantly reduces imports. This may be a program opportunity. Deslocados are apparent in the bairro's northern reaches.

5. Laulane and Mahotas - north of Hulene and east of Nyerere, these two bairros again contain a very large area of well laid out, low income residential space. In the northwestern corner near the roundabout a very substantial semi-detached (i.e. duplex type) housing project is being developed by Dalo Construcao for the police and military. This project is apparently funded through an East German grant or barter arrangement and obviously costs a great deal. There is absolutely no prospect of cost recovery unless the country's security forces are extremely well paid. It appears at a glance that this large project is strategically located along the poblacion's northeastern "frontier".

The Bank's urban rehab project includes sites and services in these bairros to accommodate families to be relocated from renovated apartments and houses which will be let to expatriates. The Bank's project has apparently not commenced, but rumors have been heard in the community. A self-help upgrading project is apparently underway with the support of a "Santa Maria Church". This certainly warrants further investigation. For future reference, it should be noted that some antiwhite hostility was demonstrated by adolescent males in the interior of this area. This hostility ceased when it was made clear that I am American.

6. Malhazine - proceeding west from the Mahotas roundabout, this well established bairro is bisected by the airport runway reservation and bounded on the north by another military camp in Bairro Zimpeto. The population is apparently relatively prosperous and could be investigated as a possibility for basic service introduction in tandem with cost recoverable formalization of tenure.

7. Jorge Dimitrov - much of this bairro from Malhazine in the east across the Avenue de Mocambique down towards Bagamoio appears to be full of deslocados. Near the center of this refugee area stands Missano Roque church which has obviously given over some of its grounds for the refugees. It would be very worthwhile to contact the clergy at Missano Roque for further information. The settlement here is very dense, rivaling if not exceeding old inner city areas visited later. Francisco opines that these refugees may be mainly Ronga; it would be quite interesting in this area to ascertain tribal origins, family and social organizational patterns, and to the extent possible the future intentions of the refugees with

regard to their eventual return to the hinterlands. The high settlement density also suggests that this area may require emergency water and sanitation facilities.

8. Nselene - this old bairro has a curious mixture of permanent and canico structures which suggests it may have been an early resettlement area for deslocados. As such, it might provide an interesting comparative research area with J. Dimitrov as discussed above.

9. Unidaõ Sete - this very vibrant inner city area was remarkable for its apparent impermanence. Bounded by Chamanculo D to the south and the main drainage canal to the north, this informal bairro apparently is a staging area for RSA mineworkers and their families. Francisco hypothesized that these people may have fled southern provinces and Unidaõ Sete may have been converted from a prior use, possibly industrial or manufacturing, abandoned by the Portugese. In any event, the presence of canicos near the railway tracks in an otherwise established area is intriguing.

10. Xipamanine - this mixed residential/commercial area is remarkable for the extent to which obvious former prosperity has been replaced by deterioration. This area may be included in the Bank's rehab program; if not, it is at first glance an attractive restoration candidate.

11. Bairro Indigine - this fascinating subdivision is apparently the only housing built specifically for blacks by the Portugese in Maputo. Originally occupied by black civil servants, the bairro is bounded on the southeast by Avenue. de Angola and on the northeast by the main drainage canal. The houses appear to have been both single and duplex units originally. Many are now extremely rundown, but rehabilitation is clearly indicated to preserve the original investment in this central location. It is odd that the Bank's rehab project appears not to include this site, although it would not be suitable for occupation by typical expatriates even if repaired.

12 Mafalala - we investigated only the northern end of this bairro along the edge of the old dumpsite between Avenue. de Angola and Lusaka bounded on the northeast by the main drain. Along the northwestern boundary of the old dumpsite at least several hundred deslocado families have "squatted" very recently. Government has apparently made several attempts to remove these refugees including dispatching of police to the site. Government's lack of success is intriguing in that "squattng" as an illegal activity does not appear to have much precedent. The "Old Dumpsite" (for lack of a better name) deslocados must have been very well organized, another interesting angle. "Professional squatting" is an extremely

lucrative occupation in many developing cities but is not evident in most of the Southern African countries. The old dumpsite appears to have been covered and presents interesting development opportunities; this may explain GOM's attempts to dislocate the deslocados there.

Second Leg

The second leg of the Maputo city tour concentrated on bairros in the western portion of the urban area. Observations and comments are as follows:

1. Bairro Luis Cabral - this is a large, dense, well established shanty town which completely encircles the big cemetery that fronts on Av. de Mozambique. There is a big junk/salvage yard just about in the middle of the bairro, called Sacata. The bairro has a number of badly deteriorated paved roads, the massive potholes in which tend to impound water after heavy rains. The settlement density of this old bairro is much higher than, for instance, Polana Canico but the structures are not appreciably better. The area's extremely bad drainage must pose a distinct malarial health risk in the rainy season.
2. Bairro Jardim - this elongated bairro is bounded on the northeast by the main open drain and the Jardim Zoologico and on the south by the railroad tracks. The flats and houses were once of a high standard but are now badly deteriorated. Cost of rehabilitation would probably be beyond the resources of the inhabitants; however, a one-time grant followed by establishment of a condominium-type monthly maintenance fee assessed per unit might help to preserve the existing investment.
3. Vale do Infulene - there is quite a bit of cultivation in the vale, more intensive to the southwest and less so in the north. I believe UNICEF is active in the Vale through their green zones program. The potential for more intensive cultivation of higher (either nutritional or cash) value crops in this fertile flood plain should be investigated.
4. Bairro Accordas de Lusaka - to the west of this bairro settlement densities drop rapidly. The Machava Hospital along Infulene Road appears to be in quite bad shape. Bairro Lusaka runs along the northwest boundary of the Machava Prison; houses are mainly canicio but the density is much lower than in Cabral, 3 km or so away. Drainage is again quite bad with impounded water in huge potholes. In bairros like Lusaka and Cabral, the existence of badly potholed asphalt roads makes for more unhealthy living environments than in places like Haulane

and Mahotas where the sandy paths allow natural absorption and easy runoff. The roads in Lusaka and other bairros should be repaired or removed altogether through labor intensive means. Lusaka has a unexploited potential for much more on-plot gardening. Don't know if this is in the green zone project or not.

5. Bairro Zona T3 - this is a well laid out subdivision with small, permanent structures that could benefit from labor intensive rehab.

6. Bairro Zona Verde - as its name implies, there is an abundance of on-plot farming in this bairro. Numerous latrines are evident and this is the only bairro where I saw many being constructed. There are a number of small businesses selling building materials including concrete blocks and bricks. No doubt this bairro is already serviced by UNICEF or other programs but further encouragement of materials production in tandem with assistance to a small scale local transport industry could be helpful.

7. North Zimpeto - in the north of this bairro going out to the security checkpoint there is quite a bit of open land which could be suitable for, among other things, planting of fast growing trees for firewood (like ipil-ipil in RP). There also is an abundance of cashew trees; several reports I've see state that there is little or no local processing capability.

8. Bairro Polana Canico B - On the downslope of the escarpment between Nyerere and the football stadium there are hundreds of canico houses most of which are very new and, hence, probably house deslocados. These people are said to be causing serious erosion problems on the escarpment and there seems to be a general lack of services. To the northeast, there are extensive tidal flats behind the RSA trade mission housing and the Costa do Sol restaurant which could provide many jobs in labor intensive mariculture. Further along, the erosion on the seaside of Bairro Pescadore is severe and could also be put right through labor intensive means.