STAFF APPRAISAL REPORT

ECUADOR

NATIONAL LOW-INCOME HOUSING PROJECT

April 13, 1982

Projects Department
Latin America and the Caribbean Regional Office

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CURRENCY EQUIVALENTS

1 Sucre (S/1) = US$0.033
US$1 = S/30

WEIGHTS AND MEASURES

1 meter (m) = 39.37 inches
1 square meter (m²) = 10.76 square feet
1 kilometer (km) = 0.62 mile
1 hectare (ha) = 2.47 acres
1 liter (l) = 0.26 US gallon

ABBREVIATIONS AND ACRONYMS

BEDE - Banco de Desarrollo del Ecuador - Ecuadorian Development Bank
BEV - Banco Ecuatoriano de la Vivienda - Ecuadorian Housing Bank
CENAPIA - Centro Nacional de Pequena Industria y Artesanía - National Small Industry and Artisan Center
CONADE - Consejo Nacional de Desarrollo - National Development Council
GTZ - Gesellschaft für Technische Zusammenarbeit - Society for Technical Cooperation
IESS - Instituto Ecuatoriano de Seguro Social - Ecuadorian Institute for Social Security
JNV - Junta Nacional de la Vivienda - National Housing Board
USAID - United States Agency for International Development

FISCAL YEAR

January 1 - December 31
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Ecuador and the Project Cities
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I. SECTOR BACKGROUND

1.01 In Ecuador, as in many countries, public authorities have had difficulty coping with the growing demand for shelter and basic services in urban areas, especially among the poor. The present Government has directed its efforts in the shelter sector toward the needs of lower-income families. At the same time, given present fiscal pressures, it has been eliminating subsidies that were formerly channelled into housing. The proposed project is designed to support the simultaneous shift of Government shelter policy toward a more social orientation and a more solid financial basis.

A. Urban Development and Housing

1.02 Ecuador's urban population of about 3.8 million (44% of the country's total population) has more than tripled over the last 30 years. Ecuador's annual population growth rate of 3.4% ranks among the highest in Latin America, and rural out-migration brings the urban population growth rate to 4.5%. In the absence of a clear population policy and a vigorous rural development policy, these trends are likely to continue, so that by the turn of the century there will be over 9 million people (58% of total population) in Ecuador's cities. Such urban growth will place significant added burdens on Ecuador's systems for providing shelter and urban services.

1.03 Guayaquil (1.2 million) and Quito (0.8 million), Ecuador's two largest cities, together account for 53% of the total urban population, 60% of national output, and 70% of industrial output. Quito is the nation's capital, and Guayaquil is its commercial center. Sixteen secondary cities together account for another 30% of Ecuador's urban population. The largest of them has a population of less than 150,000, but they have on average been growing slightly more rapidly than Quito and Guayaquil, and a few of them are experiencing annual growth rates above 10%. The secondary cities serve the rural areas of the country as administrative and commercial centers, and some have industrial sectors too.

1.04 An estimated 37% of urban families, with incomes below the absolute poverty threshold of US$223 (S/6,700) per month, are probably unable to provide themselves with a calorie-adequate diet (para. 7.07), let alone adequate housing. The proportion of urban families with incomes below the absolute poverty threshold rises to an estimated 47% in the secondary cities and even higher in the rural areas.

1.05 To the extent that the housing needs of Ecuador's low-income urban population have been satisfied, it has been done mainly by the families themselves, but without the legal framework and public infrastructure they need to do the job adequately. Approximate service levels are shown in the table below:
ESTIMATED PERCENTAGES OF FAMILIES REACHED BY
BASIC URBAN SERVICES, 1980

<table>
<thead>
<tr>
<th></th>
<th>Water</th>
<th>Sewerage</th>
<th>Electricity</th>
</tr>
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<tbody>
<tr>
<td>Quito</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Guayaquil</td>
<td>70</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>Sierra Secondary Cities</td>
<td>75</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>Coastal Secondary Cities</td>
<td>50</td>
<td>35</td>
<td>70</td>
</tr>
</tbody>
</table>

1.06 Service levels are generally higher in the cities of the Sierra (Ecuador's central mountainous region), especially Quito, than in the cities of the Coast (the coastal plain region). In the Coast, the poor characteristically "invade" vacant municipal or private land on the outskirts of cities, hastily erecting cane houses and later pressuring public officials for services and, finally, legal tenure. "Invaded" land is usually swampy or otherwise unsuitable for development, and poorly planned settlement patterns also make upgrading difficult and expensive.

1.07 Land "invasions" are relatively rare in the cities of the Sierra, primarily because of its harsher climate. Instead, the poor tend to rent older housing in the city center or on the hillsides which surround many urban areas. Nearly everyone in the Sierra towns has access to urban services, but high rents require that a larger proportion of income be used for shelter, and crowding is severe. It is not uncommon for ten people to occupy one room.

1.08 The 1974 census estimate was that 48% of Ecuador's urban housing was "unacceptable," and a fourth of that "unimprovable." It was calculated that in order to reduce crowding in urban areas to an average of 4.5 people per house, an additional 234,000 houses would have to be built. Despite recent efforts to construct more schools and extend health services, the schools and clinics that serve low-income areas are still seriously overcrowded. The leading cause of death in Ecuador, enteritis and other diarrheic disease, is largely attributable to inadequate water, sewerage, medical attention, and education.

B. Previous Responses to the Problem

1.09 The past generation has been characterized by notable efforts to meet Ecuador's continually growing requirements for urban housing. But, until recently, low-income families were virtually excluded from the formal housing market.

1.10 Until the 1960s, housing was provided almost entirely by private banks and construction companies for higher-income people and by the informal sector (generally outside the framework of the law and without necessary support from public authorities) for lower-income people. The relatively few mortgage loans of the social security system (Instituto Ecuatoriano de Seguro Social (IESS)) to its members (even now only about 700 per year) represented the only public-sector intervention in the housing market.
1.11 In 1961 the national housing bank (Banco Ecuatoriano de la Vivienda (BEV)) was founded, and the savings and loan system was established two years later, both in response to the burgeoning urban demand for housing. BEV was complemented in 1973 by the national housing board (Junta Nacional de la Vivienda (JNV)), a sister institution under the same president. BEV continued to be responsible for housing finance (including regulation of the savings and loan system), while JNV was given responsibility for construction programs and housing policy.

1.12 BEV/JNV and Ecuador's eleven savings-and-loan associations expanded rapidly. Starting with only $275 million from a USAID Housing Guaranty loan, Ecuador's savings-and-loan associations have, on the basis of private savings, been able to lend more than $6 billion during their 18 years of operations. They have recently financed an estimated 1,500 houses per year. BEV/JNV, supported by substantial transfers from the Government's petroleum revenues as well as private savings, was able to increase its average annual output from about 600 houses in the 1960s to about 2,000 in the first half of the 1970s, to about 4,500 in the latter half of the 1970s.

1.13 These efforts failed to effectively address the shelter needs of low-income people, however. The average house financed by BEV in 1977, for example, cost the equivalent of US$12,400 (updated to be comparable to project unit costs (paras. 4.06-4.08)). This was twice what a family at the urban poverty threshold at that time could afford, even at the subsidized interest rates which BEV then maintained. About 45% of the BEV/JNV houses completed in 1976 and 1977 were affordable (at subsidized interest rates) to families below the urban poverty threshold, but this accounted for only about 24% of BEV's investment program. IESS and the savings-and-loan associations provided somewhat higher-cost housing, generally catering to the upper-middle range of the urban income distribution, and private banks continued to lend for high-income housing. Families in the bottom half of the income distribution were left to find housing for rent or to build their own.

1.14 Formal-sector housing production has been unduly concentrated in Quito and Guayaquil. According to a 1980 USAID study of human settlements in Ecuador (Item C.4 in the Project File), only 13% of the housing produced by the formal sector in 1973-77 was outside Quito and Guayaquil, and only 1% in rural areas.

1.15 The provision of urban services has also been improved over the years, but, again, attention has focused on higher-income people in Quito and Guayaquil. Municipal companies were established for both water and sewerage in Quito and Guayaquil in the 1960s, and a number of secondary cities have since formed utility companies. Urban services are still not available to many families, especially outside the two major cities. Cost recovery for existing water and sewerage services is far from adequate, and this limits the ability of utilities to serve new low-income consumers.

1.16 In order to demonstrate the feasibility of providing the poor with more adequate housing and basic urban services, the Bank helped the Municipality of Guayaquil prepare the Guayaquil Urban Development Project during 1978 and 1979 (IBRD Loan 1776-EC). With the inauguration of a new Government administration in August 1979, urban development and housing policies at the national level were sharply reoriented to the benefit of
lower-income people. Concepts and technologies which had been included, on a demonstration basis, in the Guayaquil Urban Development Project (para. 1.19), were now announced as national policy.

1.17 In compliance with promises made when the administration began, BEV/JNV has managed to nearly complete a nationally financed project of 8,000 low-cost houses (called the Guayaquil Emergency Plan) within two years. A US$64.7 million USAID Housing Guaranty project for Quito has also been planned, involving a private foundation, the Municipality, and BEV/JNV in the development of a new low-cost housing site. Start-up of the USAID project has been delayed by slow provision of necessary off-site infrastructure, administrative problems in the foundation involved, and high mortgage interest rates in the United States.

C. Performance on the Guayaquil Urban Development Project

1.18 Key steps in the processing of the proposed loan have been linked to progress on the Guayaquil Urban Development Project (IBRD Loan 1776-EC), particularly on its BEV/JNV component. The project proposed in this report is not a follow-up project to the Guayaquil Urban Development Project, but the Guayaquil project is related to the proposed project:

(a) BEV/JNV is one of the participating agencies in the Guayaquil project (500 low-cost houses in the Floresta area and 10,000 small home improvement loans); and

(b) the Guayaquil project also includes components of sites-and-services and slum upgrading (to be executed by the Municipality of Guayaquil).

1.19 The Guayaquil Urban Development Project is a multi-component, multi-institution effort to ameliorate poverty in Guayaquil. It was designed to demonstrate the feasibility of several innovative approaches to investing in the urban poor (sites-and-services, slum upgrading, assistance to very small enterprises) and involves a number of institutions. It was limited to Guayaquil because the project is complex, and because the problems of illegal urban settlements and city mismanagement are especially severe in Guayaquil.

1.20 All of the project's components are now underway, but the whole project suffered nearly a year of delay before its various legal agreements were signed. There was a protracted delay prior to signature of the Bank loan related to Ecuador's adoption of a new constitution. Subsequently, there was a delay in finalizing sub-agreements within the country, particularly those involving BEDE (the new (1979) national development bank). BEDE has now started disbursements for the Guayaquil project.

1.21 The largest component of the Guayaquil project (US$24 million) involves the provision of basic urban services to low-income areas (both sites-and-services areas and existing slums to be upgraded), to be executed primarily by the Municipality of Guayaquil. The Municipality's project unit has done moderately well during project start-up (finalizing land expropriation, launching consultant studies of municipal financial management and detailed design for sites-and-services, and initiating a
city planning study financed by the national preinvestment fund from IBRD's Second Technical Assistance Loan (S-006-EC)). They have been hampered by the Municipality's chronic administrative weaknesses, however. They have had particular difficulty with the urban upgrading subcomponent, because works cannot begin until feasible plans are prepared for legalizing the land tenure situation in two slums to be upgraded. Formulation of these plans continues to be frustrated by political conflict between municipal officials and a committee of the National Congress. However, a new Project Coordinator (located in the Central Bank), appointed in January 1982, is taking steps to resolve this conflict.

1.22 In contrast to the Municipality's difficulties, BEV/JNV is making good progress on the second major component of the Guayaquil project (US$14 million), which consists of low-cost housing construction and home improvement loans. By the time of loan negotiation in March 1982, BEV had requested nearly US$2 million in IBRD disbursements, completed more than 75% of its new housing area (Floresta), and disbursed over 200 home improvement loans.

1.23 The third major component of the Guayaquil project (US$11 million) involves assistance to very small-scale enterprises. It consists of small loans (averaging about US$1,000 each) by private banks, supported by technical assistance to the enterprises from the national small enterprise and artisan center (CENAPITA). Although open to all private banks, the component was designed on the basis of an existing program of the Banco del Pacifico. In early 1981, this bank experienced repayment problems with its ongoing program and stopped new lending of this type for several months to concentrate on supervision and collection. Since July 1981, however, the Banco del Pacifico has disbursed US$225,000 in loans under this component. The Central Bank began rediscounting these loans in November 1981, the Ministry of Finance having established a revolving fund of US$300,000 for the program. Parallel to this, CENAPITA has begun its program of technical assistance to very small-scale enterprises in Guayaquil, having provided training in basic organization and accounting to nearly 200 small-scale entrepreneurs.

D. Plans for the Future

National Development Plan

1.24 The housing chapter of the National Development Plan 1980-84 advocated a shift toward progressive housing schemes (sites-and-services and basic units) and toward housing investment in secondary cities. It called for the construction of cheaper homes and many more of them. The activities of all the institutions involved in the sector were to be somewhat reoriented toward the lower end of the income scale. Regarding rural housing, the Plan counseled an emphasis on research and experimentation during this five-year period.

1.25 BEV/JNV has taken the Plan seriously, but it is now fully recognized by all the officials involved that the Plan was too ambitious in the number of houses it said should be constructed in the five-year period. According to the Plan, BEV/JNV would have constructed 143,000 homes in 1980-84, more than seven times its output over the last five years. Targets for the social security institute, the savings-and-loan system, and the rest of the private sector were also ambitious, but no mechanisms were suggested for evoking such expansion on their part.
1.26 The urban development chapter of the Plan proposed the formation of a National Urban Development Council to review all urban development investments. It would include representatives of CONADE (the planning ministry), JNV, IEO (the water and sanitary agency), the municipalities, and other institutions involved in urban development. Unlike the parallel Rural Development Council, this council has yet to be established. Implementation of the other proposals in the urban development chapter is also, for the most part, still pending.

Sector Constraints

1.27 When the proposed project was identified, IBRD and CONADE also identified several binding constraints on Government's intentions for housing and urban development more generally. Accordingly, over the past two years the Bank has undertaken sectoral analyses related to each of these priority constraints. These analyses were intended to address issues which are important to the sector, but extend beyond the scope of the project.

1.28 The first analysis focused on the issue of inappropriate urban development regulations. Mainly in response to one of the recommendations which resulted from that analysis, CONADE and JNV hosted a national seminar on urban development norms. Through the seminar, they were able to gain more acceptance by the officials who actually regulate urban development of the need to tailor norms to incomes. Some municipalities are still more conservative than others, but a marked shift of opinion has taken place (para. 4.14). The published conclusions of the seminar are available in the Project File (Item C.3).

1.29 A second constraint on the Plan is financial, and a second analysis was focused on ways that more money might be mobilized for housing, especially low-income housing. The most important conclusion was that BEV should become more active as the central institution for the savings-and-loan system, providing some support to the system and using its regulatory authority to channel more savings-and-loan resources to lower-income clients (para. 7.37). Further study is planned in order to develop a strategy for dealing with the financial constraints on the sector (Annex 1, Section C, para. 2).

1.30 Another constraint on urban development, which IBRD and CONADE considered a priority concern, is the general weakness of secondary-city municipalities. The municipalities of small towns are often unable to provide or adequately maintain urban services (para. 5.30-31). Municipal administration tends to be unplanned, under-financed, technically deficient, and narrowly political. This third sectoral analysis, which is now being finalized, will outline the issues involved and suggest steps toward resolution of the problem.

Origins of the Project

1.31 The possibility of Bank investment in BEV's nationwide program was discussed at the time of the appraisal and negotiation of the Guayaquil Urban Development Project (October 1979). The basic project concept was to support a double reorientation which BEV/JNV was considering: toward more and lower-cost houses and toward better financial management and banking
practices. Project preparation was done in-house by BEV/JNV between March 1980 and July 1981.

1.32 The Bank was aware that it would be premature to expand the Guayaquil project's various components to the national level before they were well underway in Guayaquil, so the proposed project was, from the beginning, limited to the strongest institution in the sector (BEV/JNV) and to the simplest, most advanced component (new housing). The proposed project was kept administratively simple, to avoid initial delays during the finalization of legal agreements such as the Guayaquil project had suffered. Also, while the Guayaquil project was prepared in seven months, with major inputs from Bank staff, the national project was prepared by the executing institution over a period of 15 months.

1.33 BEV/JNV's current annual production of 10,000 houses per year is equivalent to about 30% of the demand for new housing in Ecuador arising from urban growth. Thus, strengthening BEV/JNV's program—adopting more affordable standards and eliminating subsidies—would be a significant achievement in itself. In addition, BEV/JNV is the central institution in the housing sector, with broad authority to set policy and regulate other sector institutions, both public and private. As BEV/JNV leverages urban development regulations around the country down to more realistic levels (paras. 1.28 and 4.14), private-sector housing developers should also be able to produce housing for lower-income families. As BEV/JNV demonstrates the feasibility of providing families with minimal, improvable shelter units, leaving their completion to the families themselves, this approach may also be attempted by other developers. Finally, BEV is central to the savings-and-loan system, and JNV may become increasingly involved with the municipalities of secondary cities, so there would be future possibilities to improve both these sets of sector institutions through a strengthened BEV/JNV (para. 7.38).

II. THE PROJECT AGENCIES

2.01 Although institutional development is among the important aspects of the proposed project, BEV/JNV is already strong both technically and administratively, and is fully capable of implementing this project.

A. Institutional Background

2.02 BEV is an autonomous public housing finance institution with broad powers to establish housing credit policy and undertake all normal mortgage banking activities. JNV's statutory powers are almost ministerial: to program national housing policy, coordinate public and private entities operating in the sector, plan urban development through its housing projects, and promote private investment in the sector. JNV has never used most of these powers. In effect, it has been the construction arm of BEV, building housing projects for BEV financing.

2.03 Although legally distinct, BEV and JNV have functioned together as virtually one organization. They both have the same President, a cabinet-level officer with overall responsibility for housing in Ecuador. BEV's board of directors includes the President of BEV/JNV, a representative of the Ministry of Finance (which now owns 95% of BEV's shares), and a representative of IESS (which owns the other 5%). JNV's board includes representatives of a number of other institutions, including several ministries and the savings-and-loan system.
BEV/JNV's management during the 1970s was aggressively growth-oriented. BEV obtained substantial annual transfers from the Government's petroleum revenues, and, at the same time, built up a nationwide network of offices (Quito, Guayaquil, and 17 secondary cities) and an impressive clientele of regular savers. JNV was run much like a construction company. There were constant efforts to build more houses, but little forward planning.

BEV/JNV's management changed in August 1979 and, after six months, changed again. There have been changes in management personnel since then, but without disrupting the continuity of management. BEV/JNV's present management shows a strong social orientation, complemented by a serious interest in planning.

B. Organization

During the first year of this administration, six project units were set up to undertake a series of tasks for which BEV/JNV's traditional organization and staff were thought to be ill-prepared. Almost all these special project units are now being dissolved, however, and BEV/JNV management is modifying the basic organizational structure of BEV/JNV to make it more apt for present purposes.

The new organizational structure for JNV is shown in World Bank diagram 23429 in Annex 4. Most of what is now JNV will become JNV's Technical Directorate. In addition, a Planning Directorate has been established to strengthen planning and evaluation and to develop JNV's policymaking function. JNV's legal department, now overshadowed by BEV's Legal Directorate, is to be fortified and raised to the directorate level. The third new JNV directorate will be Administration and Finance, which will, for the first time, keep JNV's accounts entirely separately from those of BEV. The Federal Republic of Germany has agreed to support JNV's institutional development with a grant program of technical assistance in coordination with the proposed IBRD-financed project (para. 4.35).

These reforms should strengthen some of JNV's past weaknesses: its dependence on BEV; its failure to go beyond construction programs to the policy-making role its statutes authorize; its lack of project planning, appraisal, and evaluation; and its inefficiently "flat" hierarchy (with too many detailed decisions taken at the level of General Director). JNV's restructuring has been approved by the National Personnel Office, but the pace of its implementation has been slowed by recent Government austerity measures. Although its full and prompt implementation would be desirable, it is not essential for implementation of the proposed project. JNV has agreed to provide the Bank, by June 30, 1983, a report of progress on institutional development to that date (para. 8.02(a)(i)).

BEV has already established three new departments (as shown in IBRD diagram 23427 in Annex 4): to manage BEV's investments in building materials factories in a more businesslike way (para. 6.11); to control BEV's local offices; and to improve operating procedures. These reforms are less sweeping than those underway within JNV, but are sensible and appropriate improvements. BEV has also agreed to provide the Bank by June 30, 1983, a report of its progress on institutional development to that date (para. 8.02(b)(i)).
C. Personnel

2.10 The number and quality of staff appear adequate in relation to current investment volumes. The total number of regular personnel in BEV/JNV is 1,313 (394 in JNV and 919 in BEV). Of the 394 in JNV, about half are professional staff, mostly engineers and architects. Both BEV and JNV also contract additional personnel; in the past substantial numbers of permanent lower-level staff were kept on contract, but nearly all have been integrated into the regular personnel system over the last two years.

2.11 The quality of staff in BEV/JNV is generally high. BEV, as an autonomous bank, is not bound by civil service salary restrictions and can pay fully competitive salaries. JNV, however, has had to resort to a system of bonuses to attract good staff despite relatively low nominal salaries. Even with bonuses, JNV salaries have been below BEV salaries, with negative results in the recruitment of technical staff. As part of JNV's current restructuring, higher salaries for JNV staff went into effect in December 1981.

D. Accounting and Auditing

2.12 Project accounting is done by each local office, but controlled by the main office in Quito and consolidated once a month. Accounting is generally adequate at both the local and national levels, and the project includes technical assistance to rectify minor problems that exist (Annex 1, Section C, para. 1).

2.13 BEV's present auditing arrangements are also satisfactory. Internal audit is done by staff who are paid by BEV, but who report to the national Controller and are independent of BEV management. This staff of 34 professionals audits all of BEV's accounts annually or, as needed, more frequently. In addition, completely external staff from the Superintendency of Banks audit BEV's accounts about once a year, but without fixed schedule or prior notice. A similar system is established by law for all public agencies in Ecuador, but its results are apparently better for some agencies than for others. IBRD missions have reviewed BEV's internal audit reports for the last three years and found them to have been timely and quite satisfactory.

2.14 For the purpose of the proposed project, the local offices involved would maintain separate project accounts. BEV would advance enough working capital to each local office involved for two quarters of implementation, to be replenished in the third quarter after expenses for the first quarter are justified. The project would help BEV acquire a new computer, which would, for the first time, directly link its various offices around the country into a financial information system in Quito (para. 4.37). A team within BEV's Credit and Finance Directorate would prepare a consolidated project account monthly and a comprehensive statement on the project's financial status annually.

2.15 The financial performance of each local office involved would be audited by BEV auditing staff once a year, and the project would also be reviewed by BEV's external auditors. BEV would request the Superintendency of Banks to start its external audit of BEV by September 30 of each year, in order to provide the Bank with external auditing reports within four months of the close of the year (para. 8.02 (b) (vii)). External audits
would explicitly include a review of the Statements of Expenditure which BEV submits to the Bank (conveying the auditors' opinion on the methodology employed in the compilation of the Statements of Expenditures, their accuracy, the relevance of supporting documents, eligibility for financing in terms of the project's legal agreements, and the standard of record keeping and internal controls).

E. Planning and Budgeting

2.16 Planning is an area of institutional weakness for BEV/JNV. Traditionally, BEV has only maintained annual budgets, with virtually no forward financial planning. This was perhaps tolerable when Government contributions accounted for a larger share of BEV's program, but not now that BEV is more dependent on savings and borrowings. JNV's planning was short-term at best. Individual projects seem to have been launched by top management without much preliminary planning or appraisal. This approach was more feasible when keeping costs down was a lower priority, but, even then, it occasioned several significant investment mistakes.

2.17 Perhaps the most important aspect of project preparation was the elaboration of reliable financial projections that have allowed BEV, in consultation with IBRD, to identify several financial problems and appropriate steps that will insure its financial stability during this period of transition (para. 6.12-18). Project preparation also brought the technical, social, and financial staff of BEV/JNV together for their first large exercise in integrated planning. Meanwhile, JNV's new Planning Directorate has initiated medium-term planning, programming the housing JNV will build for the next few years by costs, location, and types, in accordance with a systematic rationale.

2.18 These various aspects of planning still need to be further developed and brought together in an internal process for the appraisal of new projects. At the present time, projects are prepared in JNV's Technical Department and directly reviewed by top management. They should instead pass through intermediate layers of management, with second-level managers reviewing the various aspects of project planning.

2.19 Two covenants of the loan agreement would support further improvements in BEV/JNV planning. First, BEV has agreed to establish an adequate system of financial management information by March 30, 1983, and exchange views with the Bank, at least annually thereafter, about any changes in BEV's financial projections and measures being taken to maintain its financial position (paras. 6.16 and 8.02(b)(v)). Second, JNV would, by December 31, 1982, provide the Bank with a proposal for a second new housing area in Quito included in the proposed project. In addition to technical plans, the proposal would include a discussion of the development's social and financial justification, a copy of JNV's medium-term plan, and an analysis of the proposal's consistency with both BEV's financial projections and JNV's medium-term plan (para. 8.02(a)(iii)). This exercise would give BEV/JNV a further experience with integrated project planning and allow IBRD to comment, not only on the second Quito site, but also on JNV's medium-term plan and on the mechanisms of internal project appraisal.
F. Coordination and Communication

2.20 This is another area of relative institutional weakness. Top management tends to take decisions without consulting or always even informing middle managers. Communication between BEV and JNV, below the top management level, is particularly weak. Second- and third-tier managers often do not have all the information they need and, even then, sometimes hesitate to take decisions which should be made at their level in consultation with their peers.

2.21 Top management has already announced certain measures, such as weekly staff meetings, to improve coordination and communication within BEV/JNV, and one of the German experts (para. 4.35), will advise them on further steps to alleviate this problem. The proposed project would contribute to better coordination in three ways. First, the proposal for the second Quito site (para. 2.19) would be an exercise in integrated project planning. Second, since the project would be implemented by the BEV/JNV organization as whole, not by a project unit (paras. 5.01-06), IBRD supervision would include attention to general institutional problems. And, finally, project-specific systems of information and coordination (paras. 5.06 and 5.34) should also contribute to better information and coordination within the organization generally.

III. PROJECT OBJECTIVES, COMPONENTS, COST, AND FINANCING

A. The Project

Objectives

3.01 The objectives of the project are:

(a) to support the Government's policy of providing adequate low-cost housing, including housing affordable to the urban poor and in secondary cities;

(b) to strengthen the institutional, technical, and financial capacity of BEV/JNV and reorient its programs toward lower-income clients; and

(c) to provide a national demonstration of the feasibility of building low-standard urbanizations for progressive development, of reliance on self-help and mutual help in improving shelter, and of integrated urban upgrading.

Summary Project Description

3.02 The project would be carried out in Quito and nine secondary cities. Three of the cities are in the Sierra, and the remainder are in the Coast.

3.03 As further detailed in Chapter IV, the project would consist of the following six components:

(a) New Housing. This would be by far the largest component. Its estimated cost, approximately US$60 million (including land, contingencies, and certain general costs allocable to community facilities), amounts to about 60% of total project costs. The
new housing component would consist of about 8,200 shelter solutions, comprising serviced lots and two types of basic housing units (18 m² and 36 m²), together with basic infrastructure, in the ten project cities.

(b) **Urban Upgrading.** At a cost of about US$5 million, this component would provide legal land tenure and basic infrastructure (such as water supply, sewerage, street drainage, electricity, and footpaths) to some 2,400 households in existing low-income settlements in Machala and other cities.

(c) **Community Facilities.** At a cost of approximately US$8 million (plus allocable land and infrastructure), this component would provide community centers, schools, day-care centers, and health clinics in the new housing areas and in the sites selected for urban upgrading.

(d) **Home Improvement Loans.** Under this component, the cost of which would be about US$20 million, loans averaging about US$2,900 each would be made to some 7,000 families in new housing areas and other low-income neighborhoods.

(e) **Project Management.** Approximately US$7 million has been included under this component to cover clearly identifiable costs incurred by BEV/JNV in administering the project, including vehicles, equipment, and the salaries of staff who would be working full-time on the project.

(f) **Technical Assistance.** At a cost of about US$2 million, this component would provide:

(i) about 210 months of consultants' services to BEV/JNV in the areas of project implementation, low-cost housing technology, financial management, and the preparation of new projects;

(ii) short-term training for BEV/JNV staff; and

(iii) the acquisition and installation of new computer equipment.

### B. Costs

3.04 The total estimated cost of the project is US$100.4 million. This does not include taxes, since BEV and JNV are exempt from taxes and duties. The foreign exchange component is estimated at US$24.7 million, equal to 25% of project costs. Project cost estimates are summarized in Table III.1 and detailed in the Project File (Item B.1). Base costs were calculated in July 1981 prices and have been adjusted to reflect the devaluation of the Sucre in March 1982.

3.05 The estimates for land acquisition were based on updated cadastral values. Estimates for infrastructure were based on pre-final engineering designs for three of the project sites and the costs of recently completed JNV programs. They were checked at negotiations on the basis of final designs for infrastructure in five of the ten project towns,
### Table III-1: Summary of Project Cost Estimates
(July 1981 Prices)

<table>
<thead>
<tr>
<th></th>
<th>Local ($ millions)</th>
<th>Foreign ($ millions)</th>
<th>Total ($ millions)</th>
<th>Local (US$ millions)</th>
<th>Foreign (US$ millions)</th>
<th>Total (US$ millions)</th>
<th>Foreign Exchange %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. New Housing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Land Acquisition</td>
<td>239.26</td>
<td>0.00</td>
<td>239.26</td>
<td>7.98</td>
<td>0.00</td>
<td>7.98</td>
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<tr>
<td>2. Infrastructure</td>
<td>343.25</td>
<td>116.17</td>
<td>459.42</td>
<td>11.44</td>
<td>3.87</td>
<td>15.31</td>
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<td>3. Basic Units Type 1</td>
<td>116.73</td>
<td>60.04</td>
<td>176.77</td>
<td>3.89</td>
<td>2.00</td>
<td>5.89</td>
<td>34</td>
</tr>
<tr>
<td>4. Basic Units Type 2</td>
<td>180.70</td>
<td>92.93</td>
<td>273.63</td>
<td>6.03</td>
<td>3.10</td>
<td>9.13</td>
<td>34</td>
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<tr>
<td><strong>B. Urban Upgrading</strong></td>
<td>63.31</td>
<td>23.99</td>
<td>87.30</td>
<td>2.11</td>
<td>0.80</td>
<td>2.91</td>
<td>27</td>
</tr>
<tr>
<td><strong>C. Community Facilities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. In New Housing Areas</td>
<td>63.33</td>
<td>32.57</td>
<td>95.90</td>
<td>2.11</td>
<td>1.09</td>
<td>3.20</td>
<td>34</td>
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<tr>
<td>2. In Urban Upgrading Areas</td>
<td>21.08</td>
<td>10.85</td>
<td>31.93</td>
<td>0.70</td>
<td>0.36</td>
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<td><strong>D. Home Improvement Loans</strong></td>
<td>236.39</td>
<td>173.87</td>
<td>410.26</td>
<td>7.88</td>
<td>5.80</td>
<td>13.68</td>
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<tr>
<td><strong>E. Project Management</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Administration</td>
<td>94.99</td>
<td>12.66</td>
<td>107.65</td>
<td>3.17</td>
<td>0.42</td>
<td>3.59</td>
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<tr>
<td>2. Equipment and Vehicles</td>
<td>37.73</td>
<td>11.32</td>
<td>49.05</td>
<td>1.26</td>
<td>0.38</td>
<td>1.64</td>
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<tr>
<td><strong>F. Technical Assistance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Consultants</td>
<td>11.22</td>
<td>5.77</td>
<td>16.99</td>
<td>0.38</td>
<td>0.19</td>
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<td>3.01</td>
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<td>3. Computerization</td>
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<td>19.20</td>
<td>23.20</td>
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<td>0.64</td>
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<tr>
<td><strong>Base Costs</strong></td>
<td>1,414.50</td>
<td>562.37</td>
<td>1,976.87</td>
<td>47.15</td>
<td>18.75</td>
<td>65.90</td>
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<tr>
<td><strong>Physical Contingencies</strong></td>
<td>129.95</td>
<td>51.98</td>
<td>181.93</td>
<td>4.33</td>
<td>1.73</td>
<td>6.06</td>
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<tr>
<td><strong>Price Contingencies</strong></td>
<td>724.69</td>
<td>127.89</td>
<td>852.58</td>
<td>24.16</td>
<td>4.26</td>
<td>28.42</td>
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<tr>
<td><strong>Total Project Costs</strong></td>
<td>2,269.14</td>
<td>742.24</td>
<td>3,011.38</td>
<td>75.64</td>
<td>24.74</td>
<td>100.38</td>
<td>25</td>
</tr>
</tbody>
</table>

a/ Engineering design and supervision are included in the base costs, except for US$1.3 million in engineering design costs for A.2; A.3; A.4; and C.1 which are expected to be incurred before July 1982. These costs are being financed from the technical assistance component of the Guayaquil Urban Development Project.
preliminary designs for three other towns, and preliminary planning for the first upgrading area. Cost estimates for housing construction were based on detailed designs and for community facilities on unit costs of similar buildings constructed during 1980. Design for 80% of civil works was complete as of loan negotiation in March 1982. Cost estimates for home improvement loans and urban upgrading were based on affordability assumptions, construction costs, and expected demand. An average physical contingency of 16% has been allowed (10% on housing construction costs, 15% on the infrastructure costs for which pre-final engineering designs exist, and 20% on the costs of all other physical works). The project includes 186 months of local consulting services at an average cost of US$2,500 per person-month and 24 months of foreign consultant services at an average cost of US$11,300 per person-month; these costs include subsistence, travel, and overheads.

3.06 General price inflation in Ecuador was 15% in 1981, and is expected to continue at 15% through 1986. While international inflation is expected to decrease gradually, national price inflation is expected to continue at 15% because of creeping increases in the inflation of purely local costs within the economy. Consistent with this scenario, price contingencies for the foreign cost component of the project are 9.0% in 1981, 8.5% in 1982, 7.5% in 1983-85, and 6.0% in 1986. Price contingencies for the purely local cost component average 18.5% per year. The total price contingency amounts to 28% of project costs. It is assumed that Ecuador will not devalue again during the project period.

C. Financing

3.07 An IBRD loan of US$35.7 million is proposed. The Bank loan would bear a rate of interest of 11.6% and would be amortized over 17 years, including a grace period of 4 years. The loan would finance 35% of total project costs, implying 100% financing of the direct and indirect foreign exchange costs (US$24.7 million) and 14% (US$10.5 million) of the local cost of the project. Local cost financing is justified because of the need to make a significant contribution to the project, and in view of the high proportion of project benefits expected to reach the urban poor. It is also reasonable in view of the policy changes already undertaken, and yet to be undertaken, by BEV/JNV in connection with the project. The loan would also finance the capitalized value (US$527,586) of the Bank's front-end fee.

3.08 The Government would be the borrower. JNV's obligations for project execution would be included in the loan agreement. The Bank would have a project agreement with BEV, and, as a condition for effectiveness of the loan, Government would enter into a subsidiary loan agreement with BEV (para. 8.01(a)). The terms of the subsidiary loan agreement would include Government's absorption of the foreign exchange risk (para. 8.02(a)(v)). Government would agree to absorb the capital costs of health posts, schools, and community centers (para. 8.02(a)(vi)), approximately S/475 million (US$15.8 million) including allocable land and infrastructure, management, and interest during construction. Government would also insure that funds would be available, from either local or national revenues, to operate and maintain all public facilities (paras. 5.29 and 5.31). A draft of the subsidiary loan agreement was reviewed at negotiation of the Bank loan.
3.09 As shown in the project flow of funds (IBRD Chart 23232 in Annex 4), nearly the entire balance of project costs would be financed from BEV's own resources, beneficiary downpayments, or initial repayments from beneficiaries. The project would have a positive impact on BEV's finances (paras. 6.12-18 and 6.22).

IV. DETAILED PROJECT DESCRIPTION

A. New Housing

The Project Cities

4.01 The project would be located in Quito and nine secondary cities (Ambato, Babahoyo, El Empalme, Esmeraldas, Machala, Quevedo, Quininde, Riobamba, and Santo Domingo de los Colorados). Guayaquil was excluded from the project, because the Bank-financed Guayaquil Urban Development Project is underway there, and because BEV/JNV has concentrated its resources in 1980-81 on its Guayaquil Emergency Plan (para. 1.16-17).

4.02 The proposed project is oriented towards secondary cities (57% of the investment), correcting BEV/JNV's historical tendency to concentrate investments in Quito and Guayaquil (70% of BEV's cumulative investment through 1980). This project is not expected to significantly encourage decentralized urban growth, since housing is not usually a major influence on location decisions. The inclusion of secondary cities in the project is consistent, however, with the National Development Plan's concern that secondary cities receive a larger share of public investment than in the past. The ten cities included in the project are shown in IBRD Map 15981.

4.03 The list of cities to be included in the project has changed over the course of project preparation. The final selection was made primarily on the basis of a weighted average of the following indicators of need and feasibility: (a) prevalence of unserviced settlements; (b) city population and growth rate; (c) the city's development potential according to the National Development Plan; (d) location of planned Government development programs in the city; (e) availability of land; (f) proximity of off-site infrastructure; and (g) ease of access for supervision purposes (para. 5.07).

4.04 The list of cities finally selected for the project includes mostly medium-sized cities. It includes more cities in the Coast than in the Sierra, reflecting the higher population growth rates and housing demand of many Coastal cities. Adequate sites are available in all the cities.

Types of New Housing Solutions

4.05 The distribution of new housing among the three types of shelter units is roughly proportional to the distribution of households according to income and affordability. No serviced lots without houses are planned for the three cities in the Sierra, because the colder climate of the Sierra would make it difficult for a family to occupy a serviced lot without at least a one-room basic unit of durable materials.
4.06 Serviced Lots. The project would provide 3,150 urbanized lots costing on average about US$2,700 each (in 1981 prices). Most lots would be 90 m² (6 m by 15 m). The lots would be sold to the beneficiary families, providing them with security of tenure. Each would be individually connected to water, sewerage, and electrical services, and have access to either a vehicular road or pedestrian path. Each neighborhood would have the benefit of public services such as community facilities (para. 4.23), open spaces and space for parking, and street-lighting.

4.07 Basic Units (Type 1). The project would provide 2,450 type-1 basic units at an average unit cost of US$5,700. A type-1 basic unit would consist of a serviced lot, plus 18.7 m² of construction: one room and a sanitary core (combination kitchen/bathroom/laundry). Families would be provided with municipally approved plans, indicating various ways in which the basic unit could be expanded over time in accordance with the families' changing financial situation. One typical basic unit design is shown in World Bank diagram 23164.

4.08 Basic Units (Type 2). The project would provide 2,600 type-2 basic units, each costing on average about US$6,900. A type-2 basic unit is simply an expanded version of a type-1 basic unit, initially providing the family with 36.6 m² of construction: the multi-purpose room and sanitary core, plus a space which can be finished into two bedrooms. Although this would be the highest-cost solution provided by the project, model plans would be available for further expansion. They allow development alternatives, according to the family's needs and preferences.

New Housing Sites

4.09 Appropriate sites were selected on the basis of: (a) location; (b) appropriateness for housing development; (c) proximity to city center and to centers of employment; (d) proximity to community centers; (e) available infrastructure; (f) topographical, geological, and ecological considerations; and (g) land price.

4.10 Some sites suffer from problems which affect entire cities: virtually all land in several coastal cities is floodable and requires fill; land is scarce and high-priced in Quito, Ambato, and Esmeraldas; and a number of sites may present difficulties in the provision and maintenance of services because of general problems of municipal organization (paras. 5.30-31). Despite such problems, however, all the sites JNV has identified are well-selected and appropriate.

4.11 BEV already owns sites in Quito, Quininde, Riobamba, Esmeraldas, Machala, Quevedo, and Santo Domingo de los Colorados. Suitable sites have been identified and are in the process of being acquired for Ambato, Babahoyo, El Empalme, and the second Quito development. All the project sites would be acquired by the end of 1982 (para. 8.02(b)(vi)). BEV routinely and efficiently acquires the land it needs for its projects, so delays due to site acquisition problems are not expected.
Site Layouts

4.12 Lot sizes and layout efficiency were among the variables considered in evaluation of the project's affordability (para. 7.03). Most lots would be 90 m², but on some sites, where land is particularly expensive, lots of 72 m² are planned. On the other hand, affordability constraints may allow for lots larger than 90 m² in one or two towns of the Coast, where service levels would, of necessity, be low.

4.13 Indicators of layout efficiency vary according to the characteristics of the different sites, but the following levels are not untypical: (a) 60% of site area available for housing; (b) 25% of site area devoted to circulation; and (c) 15% of site area devoted to community facilities and green areas. Site development plans for Riobamba and Santo Domingo de los Colorados are shown in IBRD maps 15982 and 15983.

4.14 IBRD concern about urban development norms (para. 1.28) led JNV and CONADE to call a national seminar on urban development norms in February 1981, including representatives from the municipalities and other regulatory agencies. The seminar reviewed the implications of the Government policy, enunciated in the National Development Plan, that urban development norms should be adjusted to realistic levels. The seminar helped to increase acceptance by municipal and other regulatory officials of more appropriate standards. The municipalities are still insisting on standards somewhat above those the Bank and JNV's management have advocated. Because of the seminar, however, JNV has been able to negotiate municipal approval for project designs which would almost certainly have been rejected before. JNV intends, during project implementation, to work toward yet more affordable designs than were available at appraisal, an effort which will be a subject for evaluation by JNV's Planning Directorate (para. 5.33).

On-site Infrastructure

4.15 Standards for on-site infrastructure vary somewhat from city to city as a result of negotiations with the municipalities. BEV/JNV would be free to relocate parts of the project, if, for site plans not yet approved, any particular municipality should refuse to accept affordable standards. The Municipality of Quito continues to insist on higher standards than other municipalities, although it has accepted lower norms for the project's first Quito site than it had generally approved in the past. Given the somewhat higher incomes of Quito's population, JNV's first Quito site would thus respond to some of the backlog of demand for relatively low-cost housing in Quito (Tables VII-1 and VII-2). Further reforms in the Municipality's standards would, however, be required before the Bank would agree to the second site planned for Quito (para. 7.05).

4.16 Service standards are, in summary, as follows (with unit costs shown in Item B.1 of the Project File):

(a) Water. Pipes are generally asbestos-cement, and capacity ranges from 150 liters per inhabitant per day to 300 liters per inhabitant per day for the first Quito site (para. 4.15).
(b) **Storm-water drainage and sewerage.** The systems would be constructed of plain concrete pipes. In most cities of the Sierra, the storm-water and sewerage systems would be mixed; in most cities of the Coast, they would be separate.

(c) **Circulation.** Roads are mostly 10 or 16 m wide, depending on anticipated use. Surfacing would be packed earth, gravel, cobbles, asphalt, or cement, according to affordability constraints.

**Off-site Infrastructure**

4.17 BEV/JNV plans to purchase a temporary water purification plant (capacity of about 30 liters per second) for its Quito site. This plant would be transferred (on a grant basis) to the municipal water company for use elsewhere in about 1985, when a major expansion of water supply to the city's southern extension is expected to be complete. Other off-site infrastructure would include 6 kms. of water pipe and a sewage collector or treatment plant for the Esmeraldas site (para. 6.22).

**B. Urban Upgrading**

4.18 JNV's first slum upgrading program would be in Machala, in cooperation with its exceptionally well-organized municipality. The program would actually be a hybrid upgrading/site-and-services program, so it would give BEV/JNV experience in working with existing neighborhoods, but also draw on their experience in building new urbanizations. The site, called Ciudadela Venezuela, is a 40 ha. area where the Municipality has been developing guided invasions ("sites-without-services"). The site is flat, off-site infrastructure would not be problematic, and public transportation to the city center (only 1 km.) is good. The Municipality has provided some landfill and marked out roads, but the layout is very inefficient, with inordinately generous lot sizes and road widths. About 700 of the 1,200 municipal lots are occupied, almost all with cane houses.

4.20 Plans for the upgrading are still preliminary, partly because planning must be done in consultation with neighborhood residents, and it would have been impolitic to consult them long before financing was arranged. The proposal would be to service the unoccupied section of the site and then move the existing houses to that section. This is feasible, because the existing houses are light-weight and could be dismantled and reassembled with relative ease. The area where the people are presently living would be developed into sites-and-services for additional families once the present residents have moved.

4.21 The Municipality has agreed to provide residents with legal title to the land, which is presently municipal property. BEV would recover all its costs from the Municipality, the Municipality, in turn, recovering these costs from the residents through an urban betterment levy. The Municipality of Machala has a good record of financial collections (with a computerized control system).

4.22 Upgrading poses certain risks for BEV/JNV: relative technical difficulty compared to new housing; possible cost-recovery problems; and an increased likelihood of conflict with local or national politicians. By
July 1983 the Machala upgrading program should be about halfway complete, and at that point BEV/JNV would evaluate its experience and exchange views with IBRD on (a) whether it should proceed with additional urban upgrading programs, and (b) whether to continue relying on municipal government for cost recovery. The most likely cities for further upgrading programs would be Esmeraldas, Quevedo, Babahoyo, and El Empalme. Funds have been included for the upgrading of approximately 1,200 more lots. If BEV/JNV and IBRD were to agree, on the basis of the Machala program, to eliminate other upgrading programs from the project, the additional funds (US$1.75 million in 1981 prices) could be reallocated to the credit line for home improvement loans (increasing it by about 13%).

C. Community Facilities

4.23 JNV plans to construct the following community facilities in new housing areas and in the neighborhoods included in their programs of urban upgrading:

(a) 10 schools (with kindergartens in the same buildings);
(b) 7 health centers
(c) 9 day-care centers;
(d) 14 community centers (with space, as necessary, for such public services as post offices and fire protection equipment); and
(e) 1 police station (as required of any developer by municipal regulation for a development the size of the first Quito site).

4.24 The architectural designs of the facilities, as of appraisal, were generally appropriate. The designs proposed for the community centers would have been unduly expensive, however; they are being redone, and would be checked by IBRD staff before bids were invited. As noted in para. 5.22, bidding documents for the first two contracts for each type of community facility would be subject to prior review by IBRD.

D. Home Improvement Loans

4.25 BEV would make approximately 7,000 small loans in the ten project towns. An estimated 40% of these loans would be directed to families in the project's new housing areas, to assist them in building homes on the serviced lots or expanding their basic units. The other 60% would be directed to families in existing low-income neighborhoods, to assist them in expanding or improving their homes.

Sizes, Terms, and Conditions

4.26 The loans would range in size from a minimum of S/5,000 (US$167) to maximums of S/100,000 (US$3,333) in existing low-income areas and S/60,000 (US$2,000) in new housing areas (where beneficiaries would already be paying for the contractor-built new housing). The interest rate on home improvement loans would be 15% (para. 6.16), and terms would vary between 5 and 15 years. Initial experience with BEV's home improvement loan program in the Guayaquil Urban Development Project suggests that the great majority of families in existing neighborhoods (90% to date in Guayaquil) would opt for 5-year loans.
4.27 The size of the loan fund is based on tentative estimates of the total number of loans and their likely distribution according to size. The estimated total number of loans was based on a very approximate judgment regarding the size of loan program which would be prudent given BEV's past experience and administrative capacity. The range of sizes for individual loans was estimated on the basis of income distribution surveys and the costs of what are expected to be typical improvements.

Administration of Home Improvement Loans

4.28 BEV traditionally made individual loans only to a relatively few well-off clients. Its first home improvement loan experience directed toward low-income clients is now getting underway in Guayaquil, as part of the IBRD-financed Guayaquil Urban Development Project. The home improvement loan program in the proposed project is not expected to begin until project effectiveness, so that BEV/JNV would have more than a year of experience with the Guayaquil program before launching similar schemes nationwide.

4.29 BEV would make loans primarily in cash. BEV would be able, however, to provide certain materials, notably cement, more cheaply and conveniently than most clients could obtain them from private suppliers. BEV/JNV already has facilities and procedures for handling building materials, so establishing materials stores on project sites would not be unduly difficult. In any case, beneficiary families would be free to procure their materials from other sources. The Bank would disburse against loans made by BEV (para. 5.23(a)), not against BEV's procurement of materials for sale to borrowers of home improvement loans.

4.30 JNV technicians would provide minimal supervision of home improvements, assisting families to themselves build or to supervise informal-sector contractors. JNV would provide optional standard plans in new housing areas. In Guayaquil, JNV has had to help prepare plans for home improvements in existing areas, too, to facilitate municipal approvals, but families may be able to obtain municipal approvals more easily in certain other cities.

4.31 The home improvement loan program would begin at different times in the various towns, generally following the construction schedule for civil works. In Guayaquil, BEV has found it helpful not to make home improvement loans for existing low-income neighborhoods available everywhere at once, but to focus on one neighborhood at a time. Thus, they can elicit the assistance of neighborhood organizations and avoid the potentially high costs of supervising a scattering of loans throughout the city.

E. Project Management

4.32 Certain identifiable costs of project management have been included as a component of the project. The salaries and benefits of staff who would work full-time for the project represent 80% of these costs. The required staff would consist of about 50 individuals in Quito for the entire project period (33% of personnel costs) and a typical increment of 15 individuals in each project town for the implementation period at that site. Project staff would be paid in accordance with regular BEV/JNV salary scales.
4.33 In addition, the costs of project offices and of 16 vehicles have been included in the project. It would be inefficient not to use the vehicles for other BEV/JNV business as convenient, but the number of vehicles to be purchased is based on an estimate of project requirements, and BEV management would make sure that sufficient vehicles were always available for project execution.

F. Technical Assistance

Consultants

4.34 Consultants would be contracted to support project administration, technical innovation in JNV, improved financial management, and the preparation of future projects (para. 3.05, para. 8.02(a)(iv) and (b)(viii)). Terms of reference for project-financed consultants are outlined in Annex 1.

4.35 The project-financed technical assistance will be supplemented by a grant program of technical assistance in the area of institutional development from the technical assistance agency of the Federal Republic of Germany, the Gesellschaft fur Technische Zusammenarbeit (GTZ) (para. 2.07). The main GTZ contribution to BEV/JNV will be two experts for two years each: one to continuously review JNV's internal institutional development, and the other to assist developing JNV's statutory policy-making function (especially in relation to municipal governments). This support was detailed with JNV by a GTZ mission which visited Ecuador during field appraisal of the proposed IBRD loan, and GTZ headquarters have confirmed to the Bank their intention to provide this assistance.

Training

4.36 BEV/JNV managers and project staff would benefit from training, both abroad and in Ecuador, primarily in financial planning, management, and in certain technical aspects of low-cost housing. Training would include visits to similar projects in other Latin American countries. JNV's Planning Directorate, in consultation with BEV's Finance Directorate, would prepare an initial plan for staff training by May 1982 (as noted in Annex 2).

Computerization

4.37 BEV's present computer system was probably never appropriate for a bank, and is now out-of-date. It does not include terminals outside Quito, and its functions are limited. A recently contracted study of how it might be adapted to BEV's current needs concluded that BEV's present system should be turned over to JNV for its more limited requirements, and that BEV acquire an entirely new system. Present cost estimates (including both hardware and software) are based on this preliminary study, but BEV would contract consultants to more carefully examine what type of system should be acquired and to prepare bidding documents.

V. IMPLEMENTATION

A. Project Administration

5.01 Since this project is a multi-city slice of BEV/JNV's program, and since one of its objectives is to support the overall institutional
development of BEV/JNV, it would be inappropriate to establish a separate
project unit for the purpose of implementation. Establishment of a project
unit would also go against BEV/JNV's present policy of dismantling the
various project units which were set up shortly after the change of
Government (para. 2.06).

5.02 On the other hand, some clustering of project administration
functions and some project-specific buttressing of BEV/JNV's management
systems would be necessary in order to: (a) facilitate implementation of
the innovative aspects of the project; (b) meet special IBRD requirements
(most notably for disbursement, procurement, and accounting); and (c)
assure IBRD of timely implementation. Thus, the project would be
administered primarily by identified staff within BEV/JNV's normal
organization, supported by a project-focused system of coordination and
supervision.

5.03 Organizational arrangements for the project execution are
outlined in World Bank diagram 23428. BEV/JNV staff are presently
finalizing an organizational manual for the project, which is to be
forwarded to the Bank by May 1982.

5.04 Two key appointments were linked to processing of the IBRD loan.
The Project Manager was selected in time to attend loan negotiations, and
the Project Coordinator's selection is a condition for loan effectiveness
(para. 8.01(b)).

5.05 The Project Manager would lead a project team within the
Technical Directorate of JNV. He would be responsible for the
administration of the physical and social aspects of the project. These
are normally the responsibilities of the Technical Directorate.

5.06 The Project Coordinator, an advisor to the President of BEV/JNV,
would oversee the entire project, particularly those aspects which are not
responsibilities of the Technical Directorate and would thus fall outside
the authority of the Project Manager. Several other directorates of JNV
and BEV would include identified staff working full-time on the project,
whose salaries have been included in project costs. JNV's Legal
Directorate, for example, would help prepare procurement documents and
contracts, and JNV's Planning Directorate would be responsible for project
impact evaluation. When JNV's new Administration and Finance Directorate
is established, it would take over from BEV's Credit and Finance
Directorate responsibility for accounting, purchasing, inventory control,
and disbursement requests. The Project Coordinator would maintain lines of
communication and conduct occasional meetings with the various staff groups
involved in project execution. He would also be primarily responsible for
communications with the Bank.

5.07 Much of project administration would, of course, be carried out
at the level of the local BEV/JNV offices. The size and geographic extent
of the project were trimmed to what BEV/JNV, and its local offices in
particular, could comfortably handle. The number of cities originally
proposed was cut to ten, cities too distant from Quito and Guayaquil for
ey easy supervision were eliminated from the project, and the technical and
administrative capacity and experience of BEV/JNV local offices was
evaluated in relation to the size of program proposed for each city.
Depending on the amount of work to be done and the capacity of a given
office, the technical and social aspects of the project would be
administered either through the BEV/JNV office or by a special local team of seconded and contracted staff. Responsibilities at the local level would include supervision of contracts and payments for contracted services.

B. Dealings with Beneficiaries

5.08 BEV/JNV's present system of dealing with beneficiaries is clearly defined and works satisfactorily, so dealings with the beneficiaries of this project would generally follow established procedures.

Publicity and Selection

5.09 BEV/JNV advertises in the public media and sometimes through meetings with employees of large enterprises. It advertises generally to attract savers and, more specifically, to announce programs under construction.

5.10 BEV's selection requirements are reasonable:

(a) a stable family unit (not necessarily a male head of household or a legal marriage);

(b) appropriate land title:

(i) for selection for new housing, the beneficiary must not already be in legal possession of another home;

(ii) for selection for a home improvement loan, the beneficiary must be in legal possession of an unmortgaged home (or, up to a limit of S/30,000, in the process of obtaining a mortgageable title) in an area where provision of urban services is feasible;

(c) sufficient income to pay back the loan; and

(d) a savings account in BEV (which may be opened upon application for the loan, so that the downpayment is available when the loan is to be made).

In addition, although it is expected that mainly lower-income families would apply for the low-cost housing solutions provided by this project, BEV would formally exclude from the project families with incomes in the top 30% of the estimated income distribution.

Contracts with Beneficiaries

5.11 BEV's contracts with beneficiaries and procedures for title registration are satisfactory. The only restriction of note is that the property becomes family patrimony, which means that the head of the family cannot transfer the house to someone else, except to acquire another house without BEV's consent. This policy was included in BEV's fundamental enabling legislation; it protects the family in case of abandonment by the head of the household.
Social Administration

5.12 This project would require a major increase in the number of social work staff. In addition to the traditional functions of JNV's social workers (selection interviews and home maintenance training), the project-related social work staff would work with technical staff to assist families in consolidating their homes. They would also help the residents of the new housing areas organize to maintain and improve their neighborhoods (paras. 5.31(a) and 7.15). Technical assistance is planned (Annex 1, Section B, paras. 2-3), and training would be planned (para. 4.36), to help the enlarged social work staff assume their new functions.

Collection

5.13 BEV would be dealing with lower-income clients, so there is some risk of collection difficulties (para. 7.34). However, BEV should be able to handle the difficulties that may arise, since they have been able to keep arrears on their present program to 3% of collectibles. Beneficiaries would pay at BEV's offices or, for the two project cities where BEV maintains no office, to a visiting representative of BEV.

C. Implementation Schedule

5.14 The project would be implemented over nearly a four-and-a-half year period: early 1982 to mid-1986 (para. 5.27). Monitoring targets, key indicators, and key dates (as revised and confirmed by BEV/JNV management in March 1982 during loan negotiation) are shown in Annex 2.

5.15 BEV/JNV has acquired the land for seven of the project sites, and suitable land for all the other sites has been identified and is being acquired. Detailed engineering of the infrastructure for five of the new housing sites was substantially completed by the time of negotiations in March 1982 (para. 3.05). BEV/JNV plans to commence work in mid-1982 on infrastructure in four of the new housing sites. Detailed monitoring targets for project implementation are also shown in Annex 2.

D. Procurement

5.16 In the past, BEV/JNV did most of its construction by force account, but the present management of BEV/JNV has reformulated the institution's procurement policies. Their present preference is to rely primarily on national competitive bidding, but they are amenable to complying with the Bank's ICB procedures where appropriate. The Bank's procurement norms would apply to the whole project, including community facilities and project administration, even though the Bank would not disburse against these expenses (para. 5.23).

Works

5.17 Contracts for civil works valued at US$1 million or more, totalling about US$12 million, would be awarded through international competitive bidding procedures in accordance with Bank guidelines. These represent about 24% of the total value of civil works, and are the contracts in which foreign bidders are likely to be interested. Except as noted in para. 5.18 below, civil works contracts under US$1 million, totalling about US$40 million, would be awarded through local competitive bidding in which foreign companies with registered offices in Ecuador are
allowed to participate, using procurement procedures acceptable to the Bank. The construction industry in Ecuador is well developed, and, because the bulk of the civil works would be made up of a large number of small contracts in ten different cities, it is expected that most contracts would be won by local bidders.

5.18 Much of the urban upgrading component may be more suitable for execution by force account than contract, particularly because of community involvement in planning and construction. The Bank would therefore retain the option of agreeing to some of these works being done by force account up to a limit of US$5 million. The Bank would also retain the option of agreeing to some of the civil works for new housing being carried out using the cooperative labor of beneficiaries, where this would be feasible and economical, up to a limit of US$5 million.

Equipment

5.19 The only major item of equipment, the computer and associated software (valued at about US$800,000), would be procured by international competitive bidding. About US$300,000 in office machines and furniture, plus about US$200,000 worth of vehicles (16 vehicles costing about US$12,000 each, the purchase of which would be spread over the first two years of project implementation) would be acquired by local competitive bidding procedures satisfactory to the Bank.

Materials

5.20 BEV owns, or has shares in, factories that produce bricks, timber, cement, sanitary ware, and concrete pipes (para. 6.11). Its normal practice is to supply these materials to its contractors from its own factories. Under the project it would offer to sell these materials to the contractors, who would nonetheless be free to purchase them elsewhere.

5.21 Contracts for civil works and equipment would be grouped in appropriate bidding packages, so that awards could be made for large or small contracts, whichever were more economical.

Contract review

5.22 The first two civil works contracts of each type (i.e. roads, sewerage, water supply, electricity, housing construction, schools, clinics, community centers), as well as all civil works contracts or contract packages over US$1 million and all goods contracts over US$750,000, would be subject to prior review of bidding documents. This would cover about 40% of total works contract value and 25% of goods value, and would include a total of about 30 contracts. The balance of contracts would be subject to review after signature on a selective basis. This prior review coverage is deemed appropriate in light of BEV/JNV's prior association with the Bank and its satisfactory performance on procurement.

E. Disbursement

5.23 Proceeds of the Bank loan would be disbursed as follows:
(a) 42% of: (i) total expenditures for materials and civil works for new housing and urban upgrading, including engineering design and supervision; and (ii) amounts disbursed for home improvement loans;

(b) 100% of foreign expenditure and 42% of local expenditure for: (i) technical assistance (including the computer and associated software); and (ii) training.

The Bank would not disburse for land, for community facilities (which Government would be financing), nor for project administration.

5.24 Disbursements in respect of expenditures incurred for (i) civil works under contracts, (ii) technical assistance, and (iii) training, would be made against fully documented withdrawal applications. Disbursements in respect of expenditures incurred for (i) civil works under force account, (ii) engineering design and supervision carried out by in-house staff, and (iii) home improvement loans, would be made against Statements of Expenditures certified by BEV/JNV. Documentation supporting the Statements of Expenditures would be retained by BEV/JNV and made available for inspection by the Bank during the course of supervision missions.

5.25 US$1.3 million in final design costs are being partly financed from the technical assistance component of the Bank's Guayaquil Urban Development loan. Civil works contracts totalling up to US$3 million (infrastructure on five new housing sites) could be signed before Board presentation. Total expenditure on civil works before the estimated date of loan signature (October 1, 1982) could be approximately US$2.0 million, and another US$0.6 million would be spent by then on additional design work and technical assistance. Thus, retroactive financing of US$1.1 million (42% of this planned expenditure) has been recommended. These amounts of advance contracting and retroactive financing would maintain the momentum of project preparation; without it, the reorientation of BEV/JNV's ongoing program would be unnecessarily delayed by about nine months.

5.26 A schedule of estimated disbursements is also included in Annex 2. It assumes a normal lag of six months between expenditures and Bank reimbursement. The closing date of the loan would be June 30, 1987, assuming, on the basis of other projects in Ecuador, that final disbursements would be made up to a year after the expected completion date of the project.

5.27 The estimated disbursement period of five years is shorter than the average for urban projects Bank-wide (nine years), for urban projects in the Latin America region (eight years), or for all projects in Ecuador (eight years). The proposed project was designed, taking these past experiences into account, to be implemented in less time. It is relatively uncomplicated and risk-free compared to many of the Bank's earlier urban projects. BEV/JNV's rapid expansion of its program over the last two years, and especially its performance on the Guayaquil Emergency Plan (para. 1.17), demonstrate its capability to administer this part of a slow-growing overall program during the next four years (para. 6.19). Start-up delays, which have been frequent in other urban projects, should be largely avoided (para. 1.32), and the Project Coordinator (para. 5.06) and implementation consultants (para. 5.34) should help to minimize delay. Recent experience in Ecuador is that projects, like this one, which rely
primarily on banks and do not require much funding from the Government's annual budget have been implemented much more quickly than other projects.

F. Maintenance and Operation

5.28 The bulk of project investment would become the property of individual families. JNV would contribute to its maintenance by introductory courses on home maintenance for project beneficiaries.

5.29 Schools and health posts (5% of total investment) would be turned over to the Ministries of Education and Health for operation and maintenance. BEV would transfer each facility to the appropriate ministry by a separate contract, in which the ministry would assume responsibility for its operation and maintenance. This system has worked fairly well for BEV's other programs, although there has sometimes been need for follow-up from JNV and neighborhood residents to get the facilities equipped and staffed. In the case of this project, Government had also committed itself, through the loan agreement, to cause the Ministries of Health and Education to adequately operate and maintain these facilities (para. 8.02(a)(vii)).

5.30 Community centers and residential infrastructure (roads, water and sewerage, public lighting)--30% of total investment--would become the responsibility of the municipalities. For the community centers, contracts like those for the schools and health posts would be signed, by which BEV would donate the center and the municipality, in turn, assume responsibility for operation and maintenance. The municipality assumes responsibility for operation and maintenance of infrastructure when it approves a project, at the preliminary design stage and again after final design. Operation and maintenance of all community centers and maintenance of all infrastructure would cost roughly S/26 million (US$870,000) per year, an average of S/1.8 million (US$60,000) per year for each of the secondary cities involved. The increment would in no case amount to an increase of more than 7% over the municipality's current annual expenditures.

5.31 Two provisions of the proposed project would further minimize the chance of inadequate municipal maintenance of project investments:

(a) As described in para. 5.12, JNV would help the residents of new housing areas organize themselves. At the present time, municipal governments tend to meet the needs of low-income areas mainly in response to organized pressure. It would be better if this pattern were changed in time, but, for the present, community organization is the best way to assure municipal attention to project investments.

(b) Support can also be provided from Government, particularly since the secondary-city municipalities presently depend on Government for an average of about 30% of their resources. Government would (para. 8.02(a)(viii)) assure the Bank that adequate funds would be provided (either from municipal taxes and tariffs or from transfers) to operate and maintain the project investments for which the municipalities would be responsible.
G. Monitoring and Evaluation

Project Execution

5.32 On the basis of monthly reports from project staff in each town, the Project Manager would prepare an overall report on the project each month, to be distributed to responsible officials within BEV/JNV. He would also prepare quarterly reports to IBRD, comparing actual progress to physical and financial targets agreed during loan negotiation (Annex 2).

Project Impact Evaluation

5.33 While monitoring of project execution would be primarily the responsibility of the Project Manager and Technical Directorate staff, JNV's Planning Directorate, with responsibilities for evaluating all of JNV's programs, would take the lead in evaluating the impact of this project in relation to its stated objectives (para. 3.01). Outline terms of reference for project impact evaluation are included in Item B.2 of the Project File. Evaluation reports would be forwarded to the Bank, at least annually, reviewing the project's impact and perhaps suggesting modifications in project design. The Planning Directorate and the Project Manager's team together would, within six months of the last IBRD disbursement, prepare a project completion report.

Consultant Support

5.34 BEV/JNV would contract a senior consultant, with experience in similar projects elsewhere, to visit Ecuador once a quarter and advise them on project administration in general. Once a year, he would be accompanied by a multi-disciplinary team, who would review the project from their various points of view. To coincide with these annual review missions, BEV/JNV would organize annual meetings of key staff involved in the project (at headquarters and in the project cities) to review progress and problems together. In order to facilitate IBRD supervision, BEV/JNV would forward the reports produced by these consultants, both quarterly and annually, to IBRD.

VI. FINANCIAL ANALYSIS

6.01 Since 1980, while BEV's programs have been reoriented toward the needs of lower-income families, Government has not been able to contribute as large a share of BEV's total resources as before, and BEV has had to rely more on borrowing to finance continued growth. The need for full cost recovery has become more pressing, and BEV has been hardening the terms of its lending. In connection with the project, several additional reforms are being implemented to secure BEV's financial future.

6.02 Key financial data are summarized in Table VI-1. The development of financial projections for BEV has been a particularly important aspect of project preparation, and continued discussion on the basis of these projections is expected to continue during project execution (paras. 6.15-18). Detailed financial tables and underlying assumptions are presented in Item B.3 of the Project File.
TABLE VI-I  SELECTED FINANCIAL DATA - BEV
(Millions/Sucres)

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</thead>
<tbody>
<tr>
<td><strong>Total Resources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From Operations</td>
<td>589</td>
<td>699</td>
<td>1,127</td>
<td>1,483</td>
<td>1,902</td>
<td>2,424</td>
<td>2,992</td>
<td>3,658</td>
<td>4,449</td>
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<tr>
<td>From Deposits</td>
<td>885</td>
<td>1,037</td>
<td>700</td>
<td>1,177</td>
<td>1,369</td>
<td>1,581</td>
<td>1,764</td>
<td>1,957</td>
<td>2,149</td>
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<tr>
<td>From Decrease in Working Cap.</td>
<td>139</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>From Government Transfers</td>
<td>297</td>
<td>321</td>
<td>507</td>
<td>383</td>
<td>473</td>
<td>464</td>
<td>383</td>
<td>307</td>
<td>307</td>
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<tr>
<td>From Loans</td>
<td>296</td>
<td>1,059</td>
<td>1,409</td>
<td>1,351</td>
<td>1,126</td>
<td>1,057</td>
<td>845</td>
<td>978</td>
<td>1,288</td>
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<tr>
<td><strong>Total Resources</strong></td>
<td>2,206</td>
<td>3,116</td>
<td>3,743</td>
<td>4,394</td>
<td>4,869</td>
<td>5,526</td>
<td>5,984</td>
<td>6,900</td>
<td>8,193</td>
</tr>
<tr>
<td>Less Debt Service</td>
<td>287</td>
<td>568</td>
<td>869</td>
<td>734</td>
<td>895</td>
<td>1,065</td>
<td>1,065</td>
<td>971</td>
<td>950</td>
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<tr>
<td><strong>Net Resources</strong></td>
<td>1,919</td>
<td>2,548</td>
<td>2,874</td>
<td>3,660</td>
<td>3,974</td>
<td>4,461</td>
<td>4,919</td>
<td>5,929</td>
<td>7,243</td>
</tr>
<tr>
<td>Internally Generated Funds &amp; Deposits as % Investment</td>
<td>79</td>
<td>51</td>
<td>40</td>
<td>67</td>
<td>74</td>
<td>82</td>
<td>103</td>
<td>107</td>
<td>116</td>
</tr>
<tr>
<td>Debt Service Coverage</td>
<td>2.1</td>
<td>1.2</td>
<td>1.3</td>
<td>2.0</td>
<td>2.1</td>
<td>2.3</td>
<td>2.8</td>
<td>3.8</td>
<td>4.7</td>
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<tr>
<td>Debt Equity</td>
<td>30/70</td>
<td>35/65</td>
<td>48/52</td>
<td>46/54</td>
<td>44/56</td>
<td>41/59</td>
<td>38/62</td>
<td>36/64</td>
<td>34/66</td>
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<tr>
<td>Current Ratio</td>
<td>1.2</td>
<td>1.7</td>
<td>2.7</td>
<td>3.3</td>
<td>3.4</td>
<td>3.5</td>
<td>4.7</td>
<td>6.5</td>
<td>14.2</td>
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<tr>
<td>Interest Coverage</td>
<td>1.2</td>
<td>1.0</td>
<td>1.0</td>
<td>1.3</td>
<td>1.4</td>
<td>1.7</td>
<td>2.5</td>
<td>3.5</td>
<td>4.9</td>
</tr>
<tr>
<td>Return on Equity (%)</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Return before Interest on Total Assets (%)</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Arrears(% Collectibles)</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
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</table>
A. Past Performance

6.03 BEV's balance sheets for 1972-80 evidence rapid growth and reasonably good financial management (except for subsidized interest rates) during that period. Total assets increased by more than 10 times in 1972-80, while capital and reserves increased by more than 14 times. More than a third of the growth in capital and reserves was due to funds generated from operations. Working capital and liquidity were maintained at adequate levels in relation to investment volumes (the average current ratio was 4.3 to 1), and loan payments in arrears dropped from 4.0% to 3.0% of collectibles. Return on equity virtually tripled, from 3.2% in 1972 to 9.5% in 1979, but the average return on equity over the period (7.1%) was still substantially under the average annual inflation of 13%.

6.04 BEV's main sources of funds have been its own operations (34% of resources 1977-80) and savings (33% of resources). BEV's rapid growth also depended on contributions from Government (averaging S/316 million (US$13.0 million) or 21% of total resources 1977-80) and various obligations which private banks, insurance companies, and some public agencies are required by law to buy from BEV (another 7%). Borrowing accounted for only 5% of BEV's funds during the 1977-80 period.

6.05 About 75% of savings deposits are demand deposits, currently earning 9% interest for investors. The remaining 25% are fixed deposits which pay rates from 10% per year for 6 month certificates to 14% for certificates which exceed 2 years. BEV's rates are 1% above commercial bank rates for similar deposits. As shown in the table below, deposits showed a strong increase between 1980 and 1981:

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>1981</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(S/m)</td>
<td>(S/m)</td>
<td>(S/m) (%)</td>
</tr>
<tr>
<td>Demand</td>
<td>1,540</td>
<td>1,900</td>
<td>360</td>
</tr>
<tr>
<td>Fixed</td>
<td>260</td>
<td>610</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>1,800</td>
<td>2,510</td>
<td></td>
</tr>
</tbody>
</table>

6.06 BEV is authorized by law to issue bonds up to five times its equity. As of December 1980, outstanding issues amounted to about S/604 million, or approximately 0.17 times the 1980 equity figure. These bonds are sold at nominal values without discounts, mature in 20 years, and have yields of 7%.

B. Present Position

6.07 As of the end of 1981, BEV's balance sheets showed total assets of S/12,486 million (US$499 million). These assets were invested primarily
in housing loans, S/4,645 million (US$186 million), and in work-in-progress, S/5,153 million (US$206 million). Of the S/2,688 million (US$108 million) remaining, 74% consisted of current assets.

6.08 The debt equity ratio in 1981 was 35/65. As of 1981, cash and other liquid assets totalled approximately S/1,982 million (US$79 million), while short-term liabilities (less than one year) totalled S/799 million (US$32 million). The resulting current ratio of 1.7 is about a 40% of the average for the 1977-1980 period (4.3), reflecting increased levels of short-term debt since 1980.

6.09 Government's priority commitment to housing is evidenced by the fact that, despite two general budget cuts during 1981 (after the conflict with Peru and again after an unexpected drop in international petroleum prices), its contributions to BEV have been slightly increased. Most of BEV's current expansion, however, is being financed by debt: to the social security system and Ecuadorian Development Bank for the Guayaquil Emergency Plan; to IBRD for the Guayaquil Urban Development Project and the proposed National Low-Income Housing Project; and to USAID for the project being developed in Quito (paras. 1.16-17).

6.10 BEV's present administration, in part compelled by the reality of relatively smaller contributions available from the national budget, is committed to a policy of full cost recovery. Early in the process of preparing the proposed project, it was apparent that BEV would need to raise its interest rates to avoid decapitalization. General price inflation had risen from 10% in 1979 and 13% in 1980 to 15% for 1981. Thus, in March 1981 BEV's board of directors abandoned its 7-12% scale of interests, and began charging 12% on all new loans. Shortly after BEV's decision to set its general interest rate at 12%, the Monetary Board revised the entire spectrum of permitted interest rates for the banking system. BEV decided to charge 14% for all the loans being made as part of the Guayaquil Emergency Plan, which included the bulk of BEV's lending in 1981.

6.11 The present administration inherited ownership or part ownership in five construction materials factories (para. 5.20). These had been a minor but continuing drain on BEV's earnings, but BEV has recently also taken steps to improve their financial performance. A separate unit has been established to manage the factories in a more businesslike way, and all the factories except the Selva Alegre cement plant are now at least breaking even. Project technical assistance would include (Annex 1, Section C, para. 4) a 90-day consultant's study of BEV's options regarding its factories. This study would not cover the cement plant, because Government raised cement prices 60% this year (partly in response to Bank insistence in connection with the Fourth Industrial Development Project), so that the cement plant should reach breakeven in the near future. For the other factories, however, the consultants would review the possibilities for divestment to the private sector, as well as for improved performance under BEV management.

6.12 Despite recent improvements in some areas, BEV's financial situation is not satisfactory. BEV's most obvious financial problem has
been its low interest rates. Nothing can be done about the portfolio of long-term low interest-rate loans BEV has inherited from the 1970s, but BEV's management raised interest rates twice in 1981 (para. 6.10), and, partly in response to Bank concern, has recently raised its interest rate for all loans to 15%. Moving from interest rates as low as 7% to 15% for all loans in one year is an impressive accomplishment.

6.13 The present rate of 15% is just equal to the present and expected rate of inflation. BEV's current interest rate of 15% compares favorably with its average nominal cost of capital of 10%, and with the 9% rate of interest BEV pays on 75% of its deposits.

6.14 BEV has agreed to annually review and if necessary revise, in a manner satisfactory to the Bank, its interest rates and its system of pricing the housing it sells. BEV will achieve an average financial rate of return for its housing sales and credit operations for each twelve-month period which shall not be negative in real terms, taking into account, inter alia, variations in the national Consumer Price Index (para. 8.02(b)(iii)). Even if the National Monetary Board were to limit BEV's interest rates, BEV could achieve a non-negative financial rate of return on its housing operations by adding financial charges into the prices of its housing.

6.15 A second major financial problem has been inadequate financial management. BEV still operates on the basis of an annual budget and its financial reporting is of uneven usefulness for purposes of financial planning. BEV developed financial projections for itself only during the course of project preparation. The project includes technical assistance (Annex 1, Part C, para. 1) to help BEV develop these projections into a full system of financial management information. Until recently, management was pressing to produce as much housing as possible, without full information on BEV's financial limitations or much attention to cost efficiency. If recent trends were to continue, administrative expenses for 1981-85 would be twice what they were in 1977-80. Also, the value of work in progress at the end of 1981 was 63% higher than at the end of 1979 and there were delays in the final sales of two large housing projects, one in Quito and one in Guayaquil. These factors led to operational losses for BEV in 1981 and are expected to produce a loss for 1982 as well. Both of the two large housing projects are 80% complete as of April 1982, so that the losses are not expected to continue into 1983.

6.16 BEV has agreed to establish, by March 31, 1983, and to maintain thereafter, a financial reporting and management information system (as defined in Annex 1, Part C, para. 1). It will furnish to the Bank, by March 31 in each year, information about modifications in its financial projections and about measures being taken to maintain BEV's solvency (para. 8.02(b)(v)). Numbers of personnel and works in progress would be routinely monitored as part of project supervision (Annex 2, Table 2). BEV has also agreed to adopt by March 31, 1983, a statement of financial policy, having provided the Bank, by December 31, 1982, with a draft of this statement for its comment (para. 8.02(b)(iv)).

6.17 A third problem has been a rapid increase in BEV's debts in the context of an inadequate internal information system for debt management.
As loans that have already been finalized come on stream over the next five years, BEV's level of discretionary debt will quadruple from the 1980 level. These loans were contracted without full information about BEV's capacity to service its debts. BEV's debt service coverage ratio dropped to 1.2 in 1981 and 1.3 in 1982. However, taking only those loans already arranged (as listed in Item B.3 of the Project File) into account, it is projected to return to 2.0 in 1983 and to rise gradually thereafter.

6.18 BEV has agreed not to contract any additional loans until repayment of the Bank loan, except as the Bank shall otherwise agree, unless a reasonable forecast shows internal cash generation in all future years to be at least 1.3 times projected debt service, including service on the debt to be contracted (para. 8.02 (b)(ii)).

C. Future Finances and Financing Plan

6.19 Taking BEV's higher interest rates into account and assuming BEV would not contract more debts than are presently agreed, the projections presented in Item B.3 of the Project File result in BEV's total application of funds continuing to grow at an average of 14% a year through 1986. BEV's spending jumped dramatically (by 44%) from 1980 to 1981, so that even a 14% rate of growth would result in average annual spending in 1982–86 (S/4,903 million, US$163 million equivalent) at almost double the level of 1977–81 (S/2,410 million, US$96 million). BEV/JNV's successful execution of its 1981 program demonstrates its capacity for the projected level of investment, but several years of slower growth would allow BEV/JNV to conserve its financial strength, consolidate its institutional development, and introduce the more innovative approaches to low-cost housing included in the project.

6.20 BEV's financing plan 1982–86 is shown in Table VI-2 below:

Table VI-2: BEV Financing Plan 1982–86

<table>
<thead>
<tr>
<th>Applications</th>
<th>S/Million</th>
<th>US$Million</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Proposed Project</td>
<td>2,851.0</td>
<td>95.0</td>
<td>14</td>
</tr>
<tr>
<td>B. Other Housing Projects</td>
<td>11,811.0</td>
<td>394.0</td>
<td>60</td>
</tr>
<tr>
<td>C. Land Acquisition</td>
<td>1,000.0</td>
<td>33.0</td>
<td>5</td>
</tr>
<tr>
<td>D. Additions to Working Capital</td>
<td>2,659.0</td>
<td>89.0</td>
<td>13</td>
</tr>
<tr>
<td>E. Additions to Cash</td>
<td>1,566.0</td>
<td>52.0</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total Applications</strong></td>
<td><strong>19,887.0</strong></td>
<td><strong>663.0</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sources</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Internal Resources</td>
<td>16,518.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Debt Service</td>
<td>4,628.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Internal Resources</td>
<td>11,890.0</td>
<td>396.0</td>
<td>60</td>
</tr>
<tr>
<td>B. Loans</td>
<td>5,788.0</td>
<td>193.0</td>
<td>29</td>
</tr>
<tr>
<td>C. Budgetary Contributions</td>
<td>2,210.0</td>
<td>74.0</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total Sources</strong></td>
<td><strong>19,887.0</strong></td>
<td><strong>663.0</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Project expenditures in 1982-86 are expected to represent about 14% of BEV's overall 1982-86 investment program and about 24% of the housing investment in the program.

6.21 During the project implementation period BEV would also complete its components of the Guayaquil Urban Development Project (US$14 million) and the USAID-financed low-cost housing project in Quito (US$12.6 million) (paras. 1.16-17). In addition to the Bank and USAID-guaranteed loans, the major source of external financing would be an expected annual transfer of nearly US$19 million equivalent from Government. Variations in budgetary contributions would not adversely affect BEV's ability to carry out the project. Instead, they would determine the level of non-project investment that BEV could support.

D. Cost Recovery

6.22 Ninety percent of project costs (including off-site infrastructure, administration, and interest during construction) would be recovered from beneficiaries at a rate of interest of 15% (equal to general inflation, which is expected to continue at 15% (para. 3.06)), over periods varying between 5 and 20 years. Non-recoverable Government expenditures for community facilities (para. 3.08) represent 8% of total project costs. The cost of technical assistance, 2% of total costs, would be borne by BEV.

6.23 Total project cost would be equivalent to about 0.7% of total public sector expenditures during the project period. Non-reimbursable expenditures from the Central Government budget for the project community facilities would amount to 0.1% of public sector expenditures during the implementation period. Thereafter, annual maintenance costs for schools and clinics, plus a likely share (30%) of Government support for incremental municipal expenses (para. 5.31), would amount to S/10.4 million (US$0.4 million) per year, equivalent to less than 0.001% of annual public sector expenditures.

VII. ECONOMIC AND SOCIAL JUSTIFICATION

7.01 This project should directly benefit approximately 81,000 people in Quito and nine secondary cities (para. 7.06). About half of the investment would contribute to the alleviation of the shelter problems of Ecuador's population below the absolute poverty line (para. 7.09). The economic rate of return on the project is expected to be 18% (para. 7.29).

7.02 Beyond these immediate social and economic benefits, the project would also support the general reorientation of BEV/JNV toward lower-income clients, at the same time assisting BEV/JNV in maintaining its financial viability and expanding its institutional capacity. The project would provide a national demonstration of innovative (for Ecuador) and affordable approaches to low-cost housing, bringing building codes down to more realistic levels throughout the country. The benefits of these institutional developments should extend well beyond the scope and time frame of the project itself.
A. Social Analysis

Affordability and Number of Beneficiaries

7.03 Affordability. The primary criterion for project design has been affordability to lower-income clients. Detailed discussions and technical assistance during preparation have heightened cost consciousness in JNV's Technical Directorate, and affordability evaluation has now become a routine feature of JNV's normal process of project preparation. Estimates of income distribution for Quito and for secondary cities are shown in the Project File (Item B.1). The results of the affordability analysis for Quito and the weighted average results for the nine secondary cities are shown in Table VII-1.

7.04 Affordability analysis is subject to two types of planning weaknesses which are difficult to avoid: (a) errors in estimating income distributions and (b) different rates of increase in costs and incomes over the project period. If, for example, our estimates of incomes are 10% lower than is actually the case, or if costs when the housing is actually built have gone up 10% more than incomes, the percentages of the population that would be able to afford the various housing solutions (the figures in the last row of Table VII-1) would all increase or decrease by about five percentage points.

7.05 In order to minimize the chance of failing to achieve the project's intended poverty impact, the affordability targets in Table VII-2, which are consistent with the appraised results in Table VII-1, would be specified in a schedule to the loan agreement. JNV would maintain current calculations of affordability, incorporating any presently unforeseen changes in costs and current estimations of income distribution. They would provide the Bank at least annually with these estimates, along with any revised planning which may be necessary to comply with these affordability targets (para. 8.02(a)(ii)). Designs might have to be modified during the course of project implementation in view of better data on incomes or relative changes in incomes compared to costs, in order that the appraisal affordability targets be met. For the second Quito site, which has yet to be designed, the Bank would not accept average affordability results worse than those indicated in Table VII-2. Should the Municipality of Quito refuse to approve design standards which meet these affordability targets, JNV would be required to build in secondary cities instead, following the affordability targets agreed for secondary cities.

7.06 Number of Beneficiaries. The project should directly benefit approximately 81,000 people (14,800 families). Most of these, about 8,200 families, would benefit from the new housing component. Another 4,200 families would receive benefits from home improvement loans outside the new housing areas, and 2,400 would benefit from JNV's program of urban upgrading. The estimate of 81,000 beneficiaries does not include families benefiting from creation of an estimated 12,000 person-years of construction jobs directly generated by the project during its implementation period.
Table VII-1: Results of Affordability Analysis

<table>
<thead>
<tr>
<th></th>
<th>Quito</th>
<th>Secondary Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Unit (Type 1)</td>
<td>Basic Unit (Type 2)</td>
</tr>
<tr>
<td>1. Number of units available</td>
<td>1,185</td>
<td>1,815</td>
</tr>
<tr>
<td>3. Monthly family income level to which, on average, unit is affordable c/</td>
<td>S/7,965</td>
<td>S/9,306</td>
</tr>
<tr>
<td>4. Percentage of urban families to which, on average, unit is affordable</td>
<td>64%</td>
<td>55%</td>
</tr>
</tbody>
</table>

a/ Outside new housing areas.

b/ In calculating affordability, the costs of administration and interest during construction were added to the unit costs shown here.

Updated actual purchase price of land was used instead of cadastral value.

c/ Assuming 25% of income devoted to housing and 15% downpayment.

Table VII-2: Affordability Targets for New Housing

<table>
<thead>
<tr>
<th></th>
<th>Percentage of new Housing to be Provided by the Project</th>
<th>Percentage of Families with Incomes High Enough to be able to Afford these Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage of Families</td>
<td></td>
</tr>
<tr>
<td></td>
<td>about 40%</td>
<td>about 65%</td>
</tr>
<tr>
<td>Quito</td>
<td>about 60%</td>
<td>about 55%</td>
</tr>
<tr>
<td>Secondary Cities</td>
<td>about 60%</td>
<td>about 80%</td>
</tr>
<tr>
<td></td>
<td>about 25%</td>
<td>about 50%</td>
</tr>
<tr>
<td></td>
<td>about 15%</td>
<td>about 40%</td>
</tr>
</tbody>
</table>
Urban Poverty Impact

7.07 The absolute poverty threshold for urban Ecuador is estimated at US$223 per family per month at mid-1981 prices (which, assuming 5.5 people per family, equals US$487 per capita per year). A typical family with an income below this threshold is unlikely to be able to afford even a calorie-adequate diet (about 2,250 calories of a typical starch-based diet). An estimated 37% of households in Ecuador's urban population have incomes below this level.

7.08 The project is intended to support an overall reorientation of BEV/JNV programs toward lower-income clients. It is not focused entirely on the shelter needs of families below the absolute poverty threshold. Since there are technical and financial risks in shifting to a lower-income clientele (paras. 7.33-34), too radical a shift would be inadvisable.

7.09 Nevertheless, an estimated 49% of the total project investment is attributable to the population below the absolute poverty threshold. This compares, for example, to the estimated of 24% of BEV/JNV's 1976-77 program which was then, at subsidized interest rates, affordable to families below this threshold.

7.10 As detailed in the Project File (Item B.1), the poverty impact of home improvement loans and urban upgrading is much higher, proportionately, than the poverty impact of the new housing component. This was clear early in project preparation, but home improvement loans and urban upgrading will be relatively new experiences for BEV/JNV, whereas they have a proven record in providing new housing. It is sensible to concentrate most of their resources on doing better what they know they can do well, at the same time entering into promising new programs on a smaller scale.

7.11 The population served by the project would amount to about 6% of the total population of the ten project towns, and the number of poor families who are expected to benefit directly from the project (5,500) is about 6% of the population below the poverty threshold in the project towns.

7.12 Beyond these direct beneficiaries, other poor people should benefit through the rental market. In addition to the 5,500 housing solutions (either new or upgraded units) expected to benefit the poor directly, another 4,300 solutions would be affordable to the poor, but would probably be taken by families above the poverty threshold. In all, the 8,800 affordable housing solutions would be equivalent to about 10% of the present housing stock of the poor. It should have some effect on the rental market, keeping rents below what they would have otherwise have been.

7.13 These indirect benefits to the poor are particularly important in the secondary cities of the Sierra, where most poor families are renters, and where, because of high land costs and a relatively harsh climate, none of the new project housing would be affordable to families below the poverty threshold. JNV social workers have, in the past, given clients the impression that it was prohibited for them to rent rooms in JNV-built houses. The social workers' advice seems to have been widely disregarded.
in any case, but, in response to IBRD concern, JNV's management has now clarified that room rental is permitted.

B. Economic Analysis

7.14 Preliminary cost-benefit analysis early in the project cycle led to the inclusion of two fast-growing towns in the project and the elimination of several slower-growing towns. It indicated that rates of return, in general, tend to be higher in larger cities; however, given adequate rates of return in secondary cities, the Government wanted to decentralize investment in housing for social, political, and demographic reasons.

7.15 Early analysis also indicated that rates of return tend to be higher in the Sierra than in the Coast, where low-income people can more easily "solve" their housing problem by "invading" public or private land. Invasions are socially undesirable and ultimately quite costly to residents as well as to public authorities, but economic analysis highlighted the possibility that participation in illegal invasions might somewhat reduce effective demand for sites-and-services. A low-income family thinking of buying into a new sites-and-services area would be attracted by the advantages of legal tenure, order, and relatively complete services, but would think twice about the comparatively high cost to them which the project's policy of full cost recovery implies. The alternative of an invasion would offer fewer advantages to the family, but invasions have usually been able (in due course) to get public authorities to provide rudimentary services completely free-of-charge. This line of analysis led JNV to decide on expanding its social staff, in order to help sites-and-services communities organize themselves. It is envisioned that the new communities would work together politically, as well as through self-help efforts, for further improvements in their neighborhoods.

7.16 Appraisal calculations, detailed below, confirm that rates of return are satisfactory for all project components. Cost and benefit streams are shown in Item B.1 of the Project File.

With/Without Project Assumptions

7.17 With the project, it is assumed that the works described in Chapter IV would be carried out according to the appraised implementation schedule. The life of the project works is assumed to be 25 years. Without the project, it is assumed that the informal processes by which low-income families now obtain shelter would continue unchecked. The shelter thus provided would mostly be of lower quality, and the costs of upgrading it to standards to be achieved with the project would be much higher than project costs.

7.18 In the Coast, the proliferation of illegal squatter settlements would continue. Squatter "invasions" often occasion conflicts and violent confrontations with landowners and public authorities. The eventual provision of services tends to be quite costly, because squatters often occupy undesirable land, lay-outs are inefficient, and the execution of civil works in a settled area is relatively cumbersome. Finally, the land tenure situation tends to remain unclear for many years, discouraging residents from investing in the repair or improvement of their homes.
7.19 In the Sierra, the typical situation without the project would be that the poor would continue to be provided with shelter by the deterioration of housing originally built for higher-income people. Crowding would continue to be acute and quality would be below what the project is designed to produce.

Project Costs and Quantifiable Benefits

7.20 Costs and benefits have been estimated separately for the project's three main components: new housing (including home improvement loans to be made in the new areas), other home improvement loans, and urban upgrading.

7.21 Economic costs include direct costs, design and supervision, administration, physical contingencies, and a market price for land (approximately 33% above cadastral value). Custom duties, about 8% of materials costs, have been subtracted from the relevant cost streams.

7.22 Costs of the new housing component include the costs of self-help housing construction, both labor and materials (financed from both project and non-project sources). A reasonable pattern of house expansion from the initial levels provided by the project is assumed. Similarly, in calculating the cost streams for home improvement loans, it has been assumed that beneficiaries would add supplementary resources to the home improvements.

7.23 The benefits of both the new housing component and the home improvement loan component have been imputed from rental data for housing comparable to what the project is expected to produce. These imputed figures are based on BEV/JNV field surveys of rents and prices and on IBRD mission comparisons.

7.24 The benefits of urban upgrading were estimated based on property value data. Information on changes in property values is available for small, grant-financed upgrading projects in Quito and Guayaquil. Comparisons were also made between serviced and unserviced land in Machala, the town where the first upgrading program would be undertaken.

7.25 The "with and without" project assumptions described above (paras. 7.17-19) imply that project benefits should also take into account the savings resulting from avoiding the lower-quality, higher-cost development which would result if the project were not done. Based on current experience in attempting to improve existing squatter areas, it is estimated that without-project costs would have to be at least 25% higher than with-project costs to achieve the same level of benefits.

Non-quantifiable Benefits

7.26 Community Facilities. Many of the benefits of community facilities are not entirely captured by increases in rental values, and, in any case, these public facilities are likely to serve people outside the project housing areas as well as those within them. The health centers and schools should contribute to the health and education of the population. One reason for including space in the schools for preschool care is that low-income women in Ecuador usually have to work outside the home, and
neglect of small children left at home is not uncommon. Community centers would be used for community organization, cultural events, and to house common services such as telephones and post offices.

7.27 Technical assistance. Less than 10% of the cost of technical assistance and training is attributable to execution of the civil works aspect of the project, and even that should also have an impact on the overall institutional development of BEV/JNV. About 40% would be focused on such broad institutional goals as the introduction of new approaches to low-cost housing, improvement of BEV's financial management, and support in the preparation of future projects. Nearly 50% would be devoted to the purchase and installation of a new computer system for BEV, which should improve efficiency and reduce administrative costs. If the computer were to reduce staff time for BEV's financial administration by 10%, it would more than pay for itself in three years (and more than pay for the entire technical assistance component in six years), but its economic rate of return is difficult to estimate with any degree of accuracy.

Internal Economic Rate of Return

7.28 In summary, benefits can be quantified for the three main components of the project (new housing, urban upgrading, and home improvement loans). Together with prorated shares of project management, this amounts to 90% of total project costs.

7.29 Based on the assumptions and calculations above, the overall rate of return is 18%. Table VII-3 shows (in the uppermost row) the rate of return for the three main components together (18%), and for each of them separately: 17% for new housing, 21% for home improvement loans, and 41% for urban upgrading.

Sensitivity Analysis

7.30 The righthand column of Table VII-3 shows, as a form of sensitivity analysis, what the IERR would be if the costs of community facilities and technical assistance (for which benefits are not easily quantifiable) were added to the cost streams of the major components without any addition to the benefit streams. The lower rows of the table show: (a) what would happen if actual benefits were 10% lower, actual costs 10% higher, or both; and (b) what would happen if the delivery of benefits were delayed by 1-3 years with no concomitant delay in costs.

7.31 These analyses indicate that the project's rate of return is not very sensitive to variations in costs and benefits, but more sensitive to delays between costs and benefits. For the reasons noted in para. 5.27, slippage from the appraised implementation schedule is not expected, and the risk of delays between costs and benefits is even lower than the risk of delays in both costs and benefits.

C. Risks and Replicability

Risks

7.32 This project is not fraught with serious risks. The risks of difficulties during implementation were minimized during project
Table VII-3: IERR and Sensitivity Analysis

<table>
<thead>
<tr>
<th>IERR</th>
<th>New Housing, Home Improvement Loans, Neighborhood Upgrading a/ Only</th>
<th>New Housing Home Improvement Loans Only</th>
<th>Neighborhood Upgrading Only</th>
<th>All Components Including Community Facilities and Technical Assistance b/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Benefits are 10% higher than estimated</td>
<td>18</td>
<td>17</td>
<td>21</td>
<td>41</td>
</tr>
<tr>
<td>Actual Benefits are 10% lower than estimated</td>
<td>21</td>
<td>19</td>
<td>23</td>
<td>49</td>
</tr>
<tr>
<td>Actual Costs are 10% higher than estimated</td>
<td>15</td>
<td>14</td>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>Actual Costs are 10% higher and Actual Benefits are 10% lower</td>
<td>16</td>
<td>14</td>
<td>18</td>
<td>34</td>
</tr>
<tr>
<td>Benefits delayed: 1 year</td>
<td>13</td>
<td>12</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>2 years</td>
<td>14</td>
<td>13</td>
<td>17</td>
<td>26</td>
</tr>
<tr>
<td>3 years</td>
<td>12</td>
<td>11</td>
<td>14</td>
<td>19</td>
</tr>
</tbody>
</table>

**a/** All components with quantifiable benefits.

**b/** Including the costs, but no concomitant benefits, of community facilities and technical assistance.
preparation by including only one institution in the project, by focusing on one component (new housing) with which the institution already has long experience, and by thorough in-house preparation.

7.33 The two most significant risks that remain are both implicit in the reorientation of BEV/JNV toward lower-income clients. First, JNV might experience some difficulties in implementing the relatively new approaches to low-cost housing this project involves (self-help construction, home improvement loans, and urban upgrading). But these aspects of the project have been kept to manageable proportions (paras. 4.22 and 4.27), and consultants would be contracted to assist in their implementation (Annex 1, Section B).

7.34 A second risk would be that BEV would have difficulty in collecting from low-income borrowers or that its reorientation toward the poor would have a negative impact on its ability to attract savings from middle-income families. BEV's low current level of arrears (para. 5.13) indicates a capacity for dealing with the perhaps increased difficulties of collecting from lower-income families, and BEV's shift to a lower-income clientele would not be so radical as to alarm middle-income savers. Savings in BEV have, in fact, increased since BEV/JNV shifted to building more and cheaper houses, so increasing numbers of savers may more than make up for the loss of savings from better-off clients which BEV may suffer.

7.35 A third risk, that municipal maintenance for certain public facilities might be inadequate, has been minimized by the measures discussed in para. 5.31.

Replicability

7.36 The project would, in several respects, strengthen the capacity of BEV/JNV to repeat in other programs what it would be accomplishing in this project. The project would improve BEV/JNV's financial situation (paras. 6.12-18 and 6.22) and support its institutional development (paras. 2.19 and 2.21). The somewhat innovative approaches to low-cost housing included in the project (sites and services, home improvement loans, urban upgrading) would be continued in BEV/JNV's other programs. In this respect, it is encouraging that JNV staff now routinely evaluate the affordability of other programs (para. 7.03). Also, the management of BEV/JNV has recently initiated the development of sites and services in Guayaquil with some of BEV's unallocated investment funds (para. 6.20).

7.37 Even though this project is fully replicable, it is not expected that simply repeating it over and over could, by itself, solve the housing problems of Ecuador's low-income population. The need, in the cities alone, is too great to be met by the expansion of any one public institution. The Bank has thus already raised issues about two sets of Ecuadorian institutions which are also in need of reform: the savings-and-loan associations and secondary-city municipalities (paras. 1.29-30). If the housing needs of Ecuador's urban poor are to be adequately addressed, the savings-and-loan system should also, in time, redirect its energies to include the financing of more low-cost housing, and the municipalities should become more efficient in providing basic urban services. Finally, the private construction industry will have to move beyond its current role
of building elements of projects designed and managed by BEV/JNV, taking greater responsibility for development and marketing of housing which is affordable to the majority of the population.

7.38 This project would be a necessary step toward such further reforms. It would demonstrate the technical and financial feasibility of low-cost housing solutions which could later be replicated by both public and private developers. Then, too, BEV/JNV is well placed to influence other institutions in the sector (para. 1.33). As the central institution for the savings-and-loan system, BEV would be able to support a future reorientation of the savings-and-loan associations, once BEV's own reorientation is consolidated. As JNV broadens its activities from housing construction to address its responsibilities for urban development policy, Government may want to assign JNV some role in its effort to strengthen the municipalities of secondary cities. This will be one option raised when the Bank's analysis of secondary city municipalities (para. 1.30) is discussed with Government. The existing strengths of BEV and JNV, their potential to become yet more efficient, and their prospects for influencing numerous other institutions, suggest a possibility for future sector lending. Government, IBRD, or other international lenders might lend through BEV to other institutions in the sector, at some point delegating to BEV/JNV much of the work of project appraisal and supervision.

VIII. RECOMMENDATIONS

8.01 At loan negotiation it was agreed that before effectiveness of the loan:

(a) Government and BEV should enter a subsidiary loan agreement satisfactory to the Bank (SAR para. 3.08); and

(b) the Coordinator for the National Low-Income Housing Project should be selected (SAR para. 5.04).

8.02 It was also agreed, as permanent conditions of the loan:

(a) in the Loan Agreement that Government would:

(i) cause JNV to provide to the Bank, for its comment, by June 30, 1983, a report on the institutional development of JNV, including information and evaluation regarding changes in its organizational structure, systems of project preparation and appraisal, and systems for planning and for coordination with BEV (SAR para. 2.08, Loan Agreement (LA) Section 3.04);

(ii) cause JNV to furnish the Bank, not later than November 30 of each year, a report on current estimates of income distribution, costs, and planning for compliance with the affordability targets specified in Table VII-2 (SAR para. 7.05, LA Section 3.03 and Schedule 5);

(iii) cause JNV to provide the Bank, by December 31, 1982, with (a) a reasonable overall construction program for JNV during the project period, and (b) fully evaluated plans for an as yet unidentified site (the second new housing site in
Quito), showing that social, financial, and technical criteria have been taken into account (SAR para. 2.19, LA Section 3.05);

(iv) cause JNV to contract necessary consultants whose selection, qualifications, and terms of employment are satisfactory to the Bank (SAR para. 4.34, LA Section 3.02);

(v) absorb the foreign exchange risk of the Bank loan (SAR para. 3.08, LA Section 3.01(c)(ii));

(vi) absorb the capital costs of the community facilities included in the project (SAR para. 3.08, LA Section 3.01(c)(vi));

(vii) cause the Ministries of Health and Education to adequately operate and maintain the health posts and schools (SAR para. 5.29, LA Section 3.06(ii)); and

(viii) insure that adequate funds are provided to operate and maintain community centers, streetlights, roads and water, drainage and sewerage infrastructure (SAR para. 5.31(b), LA Section 3.06(i)).

(b) in the Project Agreement that BEV would:

(i) provide to the Bank, for its comment, by June 30, 1983, a report on the institutional development of BEV, including information and evaluation regarding changes in its organizational structure, systems of project preparation and appraisal, and systems for planning and for coordination with JNV (SAR para. 2.09, Project Agreement (PA) Section 2.13);

(ii) except as the Bank shall otherwise agree, not contract any additional loans until the repayment of the loan, unless a reasonable forecast shows internal cash generation in all future years to be at least 1.3 times BEV's projected debt service, including service on the debt to be contracted (SAR para. 6.18, PA Section 4.03);

(iii) annually, before the anniversary of loan signing, review and if necessary revise, in a manner satisfactory to the Bank the interest rates charged by BEV on housing loans, within the limits set by the Monetary Board, and the system for pricing the housing it sells to achieve an average financial rate of return for the housing sale and credit operations for each twelve-month period which shall not be negative in real terms, taking into account, inter alia, variations in the national Consumer Price Index (SAR para. 6.14, PA Section 2.08);

(iv) adopt by March 31, 1983, a statement of financial policy for BEV, having provided the Bank, by December 31, 1982, with a draft of this statement for its comments (SAR para. 6.16, PA Section 2.09);
(v) establish by March 31, 1983, and maintain thereafter, a financial management information system (as defined in Annex 1, Part C, para. 1), and furnish to the Bank, by March 31 in each year thereafter, beginning in 1984, information about modifications in these projections and about measures being taken to maintain BEV's solvency (SAR para. 6.16, PA Section 2.10);

(vi) acquire all the land necessary for the project by December 31, 1982 (SAR para. 4.11, PA Section 2.11);

(vii) maintain an auditing system which is satisfactory to the Bank and provide the Bank, within four months of the close of each year, external auditing reports satisfactory to the Bank (SAR para. 2.15, PA Sections 4.01-02); and

(viii) contract necessary consultants whose selection, qualifications, and terms of employment are satisfactory to the Bank (SAR para. 4.34, PA Section 2.02).

8.03 With the assurances and conditions indicated above, the project is suitable for a Bank loan of US$35.7 equivalent to the Government of Ecuador for a term of 17 years, including a grace period of four years.
ANNEX 1
Page 1

ECUADOR

NATIONAL LOW-INCOME HOUSING PROJECT

STAFF APPRAISAL REPORT

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Project Administration

1. A senior consultant, with broad experience (both technical and administrative) in the implementation of similar projects elsewhere, will visit Ecuador four times a year to review implementation of all aspects of the project. He will, in consultation with project staff, analyze progress and problems in the physical execution of the project, BEV/JNV relations with project beneficiaries, financial aspects (accounting and auditing for the project, requests for IBRD disbursements, compliance with financial covenants), coordination within BEV/JNV and with related agencies for the purposes of the project, and (especially) monitoring and evaluation. He will visit project sites and, as necessary, other agencies related to the project. He will advise BEV/JNV management on project implementation, sending copies of his reports to IBRD.

2. On one visit per year he will be accompanied by a multi-disciplinary team of about three other people. Together, they will provide BEV/JNV with a more thorough evaluation of project implementation and recommend adjustments. The team members for each year will be selected by BEV/JNV in consultation with the lead consultant and IBRD, taking current problems into account in deciding on the types of specialized expertise to recruit. BEV/JNV will call a meeting of key project-related staff, from Quito and other project cities, to participate with this inter-disciplinary team in a systematic review of project implementation. The consultant team will prepare a report to BEV/JNV, a copy of which would be sent to IBRD.

B. Technical Aspects

1. A specialist in housing technologies will provide about two months of assistance in reviewing industrial and self-help housing technologies. BEV/JNV's Emergency Plan for Guayaquil made use of a number of new materials and semi-industrial construction techniques, and the National Low-Income Housing Project will provide BEV/JNV experience with several self-help approaches to housing. Taking these recent BEV/JNV experiences into account, the specialist will recommend to BEV/JNV future directions for the development of housing technology in Ecuador.

2. Two experts in self-help and communal labor (mutual-help) methods of housing construction will assist JNV in familiarizing itself with these methods. One will work for two months when JNV first begins to guide self-help and mutual-help construction, the other for a month and a half about a year later. The second will give particular attention to JNV's need to evaluate its initial experience with self-help and mutual-help construction as a basis for further improvement.
3. A human settlements specialist will be contracted for about a month and a half, to: (a) advise JNV regarding the detailed planning and implementation of its experimental programs of urban upgrading (paying particular attention to community relations and arrangements for cost recovery), and (b) assist JNV, more generally, in developing a national human settlements policy that would take into account, inter alia, the problems of confused land tenure and inadequate services in existing low-income settlements.

C. Financial Aspects

1. A senior Ecuadorian financial analyst (contracted for six months) and an international financial consultant (contracted for two months) will assist BEV in the preparation of a financial policy statement and in the establishment of a more complete financial management information system. The financial management information system should include:

   (a) refinement of existing financial projections, making sure that underlying assumptions are reviewed by senior management;

   (b) calculation and use of key financial ratios;

   (c) putting the financial information system on computer to facilitate revisions and consideration of the financial aspects of various policy options;

   (d) development of a reporting system, by which middle-management would routinely provide senior management and BEV's board with summaries of financial information and relevant recommendations to inform decision-making; and

   (e) routine use by BEV's board, senior management, and relevant departments within BEV/JNV of the financial management information system as a basis for decision-making.

2. Three additional person-months of expert financial advice are planned to review ways to mobilize more financial resources for low-income housing generally. This consultant will pay particular attention to a potentially expanded role for the private sector. He would suggest how BEV might provide increased support to the savings-and-loan associations and direct more of their efforts toward low-cost housing. He would also consider other ways to further involve private developers in the provision of low-cost housing.

3. A local consultant in the area of cost accounting will be contracted for three years. JNV's present system of calculating costs is based more on post facto estimates than on cost accounting. The consultant would assist JNV in developing and introducing more accurate systems for keeping track of actual construction costs.

4. A local consulting firm (with experience in industrial economics commensurate with the best international accounting firms) will be contracted for 90 person-days. They will appraise how BEV should proceed
with its building materials factories (excluding the cement factory, as explained in para. 6.11), considering BEV divestment to the private sector as one option.

D. Project Preparation

1. About US$200,000 of technical assistance would be allocated to assist in the preparation of future projects (perhaps about 130 person-months of local consultant time). It is possible that BEV would, toward the end of implementation of this project, seek another IBRD loan, for its own programs and perhaps for onlending to other institutions in the sector. Alternatively, these funds could be used for the preparation of other projects, to be financed either nationally or internationally.
# Table 1: Key Dates for Project Supervision

<table>
<thead>
<tr>
<th>Dates Noted in Legal Agreements</th>
<th>Estimate at Negotiation</th>
<th>Actual or Revised Estimate</th>
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<tbody>
<tr>
<td>First submission of affordability results</td>
<td>November 30, 1982</td>
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<tr>
<td>Proposal for second Quito site and overall JNV plan</td>
<td>December 31, 1982</td>
<td></td>
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<tr>
<td>Acquisition of all land for the project</td>
<td>December 31, 1982</td>
<td></td>
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<tr>
<td>Financial management system and financial policy statement</td>
<td>March 31, 1983</td>
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<td>Reports on institutional development</td>
<td>June 30, 1982</td>
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<tr>
<th>Signing of Earthmoving Contracts</th>
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<td>Ambato</td>
<td>December 1, 1982</td>
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<tr>
<td>Esmeraldas</td>
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<tr>
<td>Quininde</td>
<td>June 1, 1982</td>
<td></td>
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<td>Quito I</td>
<td>September 1, 1982</td>
<td></td>
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<td>Quito II</td>
<td>August 1, 1983</td>
<td></td>
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<td>Riobamba</td>
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<td>Santo Domingo</td>
<td>June 1, 1982</td>
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<tr>
<td>Babahoyo</td>
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<td>El Empalme</td>
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<td>Machala</td>
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<td>Quevedo</td>
<td>December 1, 1982</td>
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<th>Other Key Dates (BEV)</th>
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<tr>
<td>Study of building material factories contracted</td>
<td>December 31, 1982</td>
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<tr>
<td>Installation of new computer</td>
<td>February 28, 1983</td>
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<tr>
<td>Project operational manual</td>
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<td>Staff training plan</td>
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<tr>
<td>Report on initial experience with urban upgrading</td>
<td>July 31, 1983</td>
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Table 2: Key Indicators for Project Supervision

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<td>New Housing Completed (number)</td>
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<td>26</td>
<td>1,810</td>
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<td>Families Served by Upgrading</td>
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<td>1,200</td>
<td>1,200</td>
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<td>Home Improvement Loans Disbursed</td>
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<td>Project Personnel</td>
<td>Initial</td>
<td>78</td>
<td>104</td>
<td>110</td>
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<td>Actual</td>
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<tr>
<td>Expenditures for Technical Assistance (S/millions)</td>
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<td>8.0</td>
<td>29.7</td>
<td>10.5</td>
<td>8.0</td>
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<tr>
<td>BEV Employees</td>
<td>Initial</td>
<td>839</td>
<td>919</td>
<td>919</td>
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<td>Actual</td>
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<tr>
<td>JNV Employees</td>
<td>Initial</td>
<td>394</td>
<td>414</td>
<td>423</td>
<td>456</td>
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<td>Actual</td>
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<td>General Inflation</td>
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<td>Actual</td>
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<tr>
<td>Average Interest Rate</td>
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<td>Actual</td>
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<tr>
<td>Work in Progress (S/millions)</td>
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<td>4,060</td>
<td>4,643</td>
<td>5,659</td>
<td>6,665</td>
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<td>Debt Service Coverage</td>
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<td>1.3</td>
<td>2.0</td>
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<td>Interest Coverage</td>
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<tr>
<td>Contribution to Investment, Excluding Deposits (%)</td>
<td>Initial</td>
<td>9</td>
<td>22</td>
<td>28</td>
<td>33</td>
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<tr>
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<tr>
<td>Contribution to Investment, Including Deposits (%)</td>
<td>Initial</td>
<td>33</td>
<td>56</td>
<td>66</td>
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### ECUADOR

**NATIONAL LOW-INCOME HOUSING PROJECT**

**Table 3: Progress on Sub-Components (expenditures as a percentage of current cost estimates)**

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<tbody>
<tr>
<td><strong>NUMBER OF LOTS</strong></td>
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<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>V</td>
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<tr>
<td><strong>ESTIMATES</strong></td>
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<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>V</td>
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<tr>
<td><strong>1982</strong></td>
<td></td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>V</td>
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<tr>
<td><strong>1983</strong></td>
<td></td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>V</td>
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<tr>
<td><strong>1984</strong></td>
<td></td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>V</td>
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<td><strong>1985</strong></td>
<td></td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>V</td>
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<tr>
<td><strong>1986</strong></td>
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<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>V</td>
</tr>
</tbody>
</table>

- **Ambato**
  - **Initial**
    - 460 27
  - **Actual**
    - 12 29 50 71 88 100
- **Esmeraldas**
  - **Initial**
    - 809 70
  - **Actual**
    - 2 19 45 74 89 97 100
- **Quininde**
  - **Initial**
    - 115 6
  - **Actual**
    - 11 41 83 100
- **Quito I**
  - **Initial**
    - 2,016 115
  - **Actual**
    - 2 11 28 53 78 92 98 100
- **Quito II**
  - **Initial**
    - 1,000 130
  - **Actual**
    - 10 22 36 52 67 80 91 100
- **Riobamba**
  - **Initial**
    - 523 28
  - **Actual**
    - 5 13 28 52 77 95 100
- **Santo Domingo**
  - **Initial**
    - 1,211 85
  - **Actual**
    - 5 23 44 71 88 98 100
- **Babahoyo**
  - **Initial**
    - 500 91
  - **Actual**
    - 91 10 22 36 52 67 80 91 100
- **El Empalme**
  - **Initial**
    - 236 26
  - **Actual**
    - 12 29 50 71 88 100
- **Machala**
  - **Initial**
    - 252 21
  - **Actual**
    - 12 29 50 71 88 100
- **Quevedo**
  - **Initial**
    - 719 56
  - **Actual**
    - 12 29 50 71 88 100

**TOTAL**
- **7,841** 695

---

### BASIC UNITS - TYPE 1

- **Ambato**
  - **Initial**
    - 354 48
  - **Actual**
    - 12 29 50 71 88 100
- **Esmeraldas**
  - **Initial**
    - 130 16
  - **Actual**
    - 9 26 51 74 92 98 100
- **Quito I**
  - **Initial**
    - 642 93
  - **Actual**
    - 5 18 40 64 85 96 100
- **Quito II**
  - **Initial**
    - 543 59
  - **Actual**
    - 10 22 36 52 67 80 91 100
- **Riobamba**
  - **Initial**
    - 308 40
  - **Actual**
    - 5 17 39 62 83 95 100
- **Santo Domingo**
  - **Initial**
    - 202 27
  - **Actual**
    - 4 15 32 52 72 88 97 100
- **Babahoyo**
  - **Initial**
    - 72 12
  - **Actual**
    - 10 22 36 52 67 80 91 100
- **El Empalme**
  - **Initial**
    - 34 5
  - **Actual**
    - 12 29 50 71 88 100
- **Machala**
  - **Initial**
    - 17 2
  - **Actual**
    - 12 29 50 71 88 100
- **Quevedo**
  - **Initial**
    - 88 12
  - **Actual**
    - 12 29 50 71 88 100

**TOTAL**
- **2,990** 341
### Table 3 (Cont'd)

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<th>Basic Units - Type 2</th>
<th>CURRENT NUMBER OF LOTS</th>
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<td>Ambato</td>
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<tr>
<td>Initial</td>
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<td>Emeraldas</td>
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ANNEX 2
### Table 4: Estimated Schedule of Disbursements

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ANNEX 3

ECUADOR

NATIONAL LOW-INCOME HOUSING PROJECT

STAFF APPRAISAL REPORT

SELECTED DOCUMENTS AND DATA AVAILABLE IN THE PROJECT FILE


B. Background Documentation by IBRD Staff and Consultants


C. General Documents


C.2. Leyes y Reglamentos del BEV y de la JNV y de las Asociaciones Mutualistas. JNV, 1980.


Typical Layouts

ELEVATION

PLAN

BASIC UNIT TYPE 1

BASIC UNIT TYPE 2

FUTURE

EXPANSION

KITCHEN

DINING ROOM

BEDROOM

BEDROOM

KITCHEN

KITCHEN
Poorly serviced, informal settlements and crowded rental housing have been the only options available to low-income urban families.
Traditional BEV/JNV programs were generally too expensive for the urban poor, even at subsidized rates of interest.
Under the present administration, BEV/JNV has been building somewhat lower-cost housing, most of it in Guayaquil.
This map has been prepared by the World Bank's staff exclusively for the convenience of the reader of the report to which it is attached. The denominations used and the boundaries shown on this map do not imply, on the part of the World Bank and its affiliates, any judgment on the legal status of any territory or any endorsement of acceptance of such boundaries.