

Report No. 475a-IND

Appraisal of the Jakarta Urban Development Project in Indonesia

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August 30, 1974

Transportation and Urban Projects Department

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CURRENCY EQUIVALENTS

US\$1	=	Rupiahs (Rp) 415
Rp 100	=	US\$0.241
Rp 1 million	=	US\$2,410

UNITS AND EQUIVALENTS

1 meter	(m)	=	39.37 inches	(in)
1 kilometer	(km)	=	0.62 miles	(mi)
1 square meter	(m ²)	=	10.8 square feet	(sq ft)
1 centimeter	(cm)	=	.39 inches	(in)
1 square centimeter	(cm ²)	=	.155 square inches	(sq in)
1 hectare	(ha)	=	10,000 square meters or 2.47 acres	(ac)
1 square kilometer	(km ²)	=	0.386 square miles	(sq mi)
1 liter	(l)	=	1,057 quarts liquid or 0.26 US gallons or 0.908 quarts dry	(gal)
1 liter per capita per day	(l/cd)	=	0.26 US gallons per capita	(gcd)
1 cubic meter	(m ³)	=	35.3 cubic feet	(cu ft)

ABBREVIATIONS AND ACRONYMS

BAPPENAS	=	National Planning Agency
Cipta Karya	=	Directorate General of Housing, Building, Planning, and Urban Development in the Ministry of Public Works and Electric Power
DKI	=	Special Provincial Government of Jakarta
GOI	=	Government of Indonesia
IGGI	=	Inter-Governmental Group for Indonesia
INPRES	=	National Program for Local Civil Works
IREDA	=	National Urban Property Tax
KIP	=	Kampung Improvement Program
NMB	=	National Mortgage Bank
NUDC	=	National Urban Development Corporation
PCD	=	Planned Community Development, Ltd. (Consultants responsible for project feasibility study)
PTB	=	Perusahaan Tanah dan Bangunan (Jakarta Real Estate Development Agency)
Repelita I	=	First Five-Year Development Plan (1969-74)
Repelita II	=	Second Five-Year Development Plan (1974-79)

The Indonesian Fiscal Year runs from April 1 to March 31

INDONESIA

APPRAISAL OF THE JAKARTA URBAN DEVELOPMENT PROJECT

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CHARTS

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| IBRD 8863 - | Implementation Schedule |
| IBRD 8683 - | Organization Chart |

MAPS

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| IBRD 10709R1 | - | Jakarta Land Use |
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INDONESIA

JAKARTA URBAN DEVELOPMENT PROJECT

SUMMARY AND CONCLUSIONS

i. This report appraises the first urban development project in Indonesia, a project designed to help the Government establish a national urban development program to raise the living conditions of the urban poor by improving their access to better physical infrastructure and housing. During a three-year implementation period, the project would support a newly established National Urban Development Corporation that would begin acquiring and developing urban sites throughout the country. The initial undertaking of this Corporation, with financial assistance from the proposed Loan, would be to implement two programs in Jakarta, the nation's capital and largest city: (a) to upgrade the infrastructure in about 1,980 ha of densely populated, low-income neighborhoods (kampungs) and (b) to develop about 130 ha of underutilized land with minimum-standard infrastructure and core housing.

ii. Indonesia, with 128 million people, is the fifth most populous country in the world, and it continues to grow by more than 2% a year. Some 18% of the population resides in urban areas. On the island of Java where pressures on rural land are particularly acute, thousands of peasants are migrating into urban centers seeking jobs and cultural opportunity, but none of the cities is prepared to cope with the influx. The new migrants need both employment and shelter, and both must be provided out of scarce Government resources. In the past, Indonesian cities have relied on financial transfers from the Central Government to execute their development programs. However, such transfers have not been, nor can they ever be, sufficient to underwrite the costs of development programs that would keep pace with urban population growth. But cities do have a potential revenue base in the real property tax and the Central Government would like to see this mechanism more fully developed so that a larger portion of scarce Central Government resources could be allocated to rural areas. In Jakarta, as elsewhere, this implies a consistent improvement of the present property tax (IREDA) assessment and collection system to generate increasing revenues to finance physical infrastructure investments. During negotiations the Government expressed its commitment to improving the present IREDA mechanism.

iii. The urban section of the Second Five-Year Development Plan (1974-79) focuses on formation of two institutions: the National Urban Development Corporation (NUDC) which would develop urban land for residential, industrial or commercial uses; and the National Mortgage Bank (NMB) which would, for the first time in Indonesia, make long-term financing available for housing. The project proposed for Bank Group assistance would be the initial activity for both institutions and, it is anticipated, a prototype for later operations.

iv. Jakarta was selected as the site of Indonesia's first urban project primarily because of its acute poverty, its intense migration, its severe housing shortage and its lack of urban services. The city population doubled in the last decade to 5 million in Jakarta proper and 7 million in the metropolitan area, which is projected to grow to about 12 million by 1985. Although the average per capita GDP is higher in Jakarta (US\$160) than in rural areas (US\$80) subsistence costs are also higher thus perpetuating the poverty cycle. Nevertheless the prospect of urban opportunities has stimulated migration so that Jakarta is growing at a rate of about 4.6% annually. Since the city has a housing stock of less than 500,000 units, new migrants are crowding into existing kampungs with relatives or squatting near employment areas. Few houses have electricity, sanitary facilities or piped water supply. During the First Five-Year Development Plan (1969-74) the Provincial Government of Jakarta (DKI) inaugurated a program to improve the physical infrastructure in the worst kampungs of the city, particularly by paving mud footpaths and roads, adding drainage channels, and increasing water supply and communal sanitary facilities. This program has been both a social and technical success. With the level of financial resources proposed in this project, the program could be executed throughout the worst areas of the city in five years rather than ten years if the city were to finance it alone.

v. The proposed project has been tailored to fit within the financial capacities of the city administration and the abilities of low-income residents to purchase property with a modest level of urban amenities, but it also has the potential for self-improvement as family incomes rise. An indicative 20-year development perspective for Jakarta (Annex 2) indicates that with a balanced program of kampung improvement and new planned community expansion, it should be possible to make necessary major infrastructure investments and simultaneously finance a minimum acceptable level of services to low-, as well as high- income residents. The full-scale development of such a program for Jakarta would be the responsibility of the Greater Jakarta Planning Board. The program would embrace a short-term plan for major sector investments and longer term plans for comprehensive development of urban facilities.

vi. The project would be implemented by the NUDC, which would oversee and coordinate the work of various participating Government departments and agencies. Civil works construction for the Kampung Improvement Program would be executed by DKI; site and service construction would be executed by NUDC. All contracts would be subject to Bank competitive bidding procedures, though most contracts are expected to be too small to attract foreign bidders.

vii. That portion of the DKI's ongoing Kampung Improvement Program (KIP) included in the proposed project, covers a two-year budget commitment period (FY74-FY76). However, full execution could extend into the following year. Since kampungs are identified for improvement on an annual basis, only the first phase improvement of 955 ha has been reviewed. Cost estimates for this portion were used to estimate the costs for the 1,025 ha to be improved the second year. In the past five years of the program, DKI improved 2,400 ha as part of a loosely coordinated effort of the city Public Works Department.

However, in seeking Bank Group assistance for the program, DKI formalized its operations, establishing a permanent office for KIP and staffing it with some 40 persons who had previously been involved with various phases of the planning, designing, and contracting work. DKI has also doubled its own financial contribution to the program as evidence of the priority it assigns to increasing development investments that benefit the lowest income groups. The proposed project assistance would make it possible to expand the past kampung program from primarily a road and footpath program to comprehensive community development, including sanitary facilities, refuse collection equipment, schools, health centers and improved water supply. Such improvements would encourage residents to invest both savings and labor to upgrade their own dwellings. Gradually, over a period of years, the standards of kampung improvement would be raised until residents have general access to electricity, water and sanitary facilities.

viii. The Site and Service program embodies a higher level of urban amenities than does the KIP because most of the development costs are to be recovered from purchasers of the prepared lots. The proposed development site is ideally situated in the expanding industrial zone east of the city at Klender about 2 km from the Pulo Gadung Industrial Estate currently being developed with IDA assistance. About 7,930 residential lots would be developed, each with frontage on a paved road or footpath with an individual connection to the municipal water system and a septic tank. About 70% of the lots would be 80 m² in size, 24% would measure 140 m² and 6% would be 200 m². The smaller lots would each have a core shelter of 20 m² consisting of a tile roof with supporting stanchions, a sanitary unit, compacted lime and earthen floor, and bamboo matting walls. A family training program would be offered to demonstrate simple construction techniques for completing houses. Lot purchasers would be charged about 84% of the development costs; the remainder would be financed as part of normal Government infrastructure investments. The lot development costs charged to the purchasers, including land, infrastructure, and community facilities are estimated at US\$8.60/m². The 140 m² lots, including a core shelter, would be sold at cost (about US\$1,708) and the 200 m² lots at market value with the differential profit applied to reduce the price charged for 80 m² lots. The NMB would issue mortgages for the smaller lots with a minimum 10% down payment and the remainder at 12% for 15 years. Lot purchasers would receive a 25-year leasehold title with a renewal option. Although the household income database in Jakarta is inadequate and somewhat unreliable, it appears that the 80 m² lots should be within the purchasing range of families above the 20th percentile. This assumes a willingness to devote 20% of household income to acquiring a lot. The 140 m² lots should be available to families near the 50th percentile. Families with incomes below these levels would benefit from KIP and those above this range could compete for available housing.

ix. Technical assistance under the project would be provided to the NUDC for three purposes: (a) to develop a five-year investment program and establish appropriate operating procedures; (b) to execute the project; and (c) to prepare feasibility studies for similar projects in up to eight other cities. Technical assistance would also be provided for the

Directorate-General of Housing, Building, Planning, and Urban Development (Cipta Karya) in the Ministry of Public Works and Power in its role as the technical arm of the Greater Jakarta Planning Board to undertake an immediate review of proposed sector investments for the metropolitan region and to develop a metropolitan economic and physical growth strategy.

x. The total project would cost an estimated US\$51.0 million. The foreign exchange component would be about US\$11.5 million. The project would directly benefit about 20% of Jakarta's population. An economic analysis indicates the project has a 17% rate of return.

xi. The project is suitable for a Bank loan of US\$25.0 million equivalent.

INDONESIA

JAKARTA URBAN DEVELOPMENT PROJECT

I. INTRODUCTION

1.01 At the request of the Government of Indonesia (GOI) a Bank Group mission visited Jakarta in 1971 to identify potential urban projects. Subsequently, in 1972, the Government retained consultants (Planned Community Development, Ltd.) with funds from the IDA Technical Assistance Credit to perform a project feasibility study. A mission in July 1973 appraised the project prepared by the consultants.

1.02 The proposed project would initiate a national urban development program by assisting in the formation of a National Mortgage Bank (NMB) and a National Urban Development Corporation (NUDC) to develop urban land for purposes that would benefit primarily low-income residents. The proposed project investments in Jakarta would be the first undertakings of both new institutions.

II. BACKGROUND

A. Historical Perspective

2.01 Situated on somewhat marshy land along the northwestern coast of Java, Jakarta functions as the commercial and administrative hub of the Indonesian archipelago, its role since settlement by the Dutch East India Company in 1619. With a present population of five million and annual average per capita income of about US\$160, the city is one of the largest and poorest in the world. Physically the city spreads over 560 km². Since 1964 when the city was designated as the national capital it has been administered as a special district or province. This status gives it an advantage over other municipalities in its taxing powers and in greater accessibility to financial and technical resources of the Central Government.

2.02 Jakarta's recent history is dominated by Government decisions in the 1950s aimed at giving the city a veneer of modern prosperity. A high-income suburb, Kebayoran Baru, was developed south of Jakarta and a limited access ring-road was constructed around the city, including a bypass road linking the port of Tanjung Priok in the northeast to the road leading south toward Bogor (Map No. 10709). Though these highways were constructed through paddy fields beyond the fringes of what was then urbanized Jakarta, they have proven the single most important force in directing later physical and economic development. During the 1960s, major construction activities, including a sports complex for the Asian Games, several monolithic monuments, and Government office buildings and hotels, created thousands of jobs for unskilled laborers, thereby stimulating migration into Jakarta. Thousands of

rural families moved into crowded quarters with friends or relatives; thousands more hastily erected temporary shelters on land they did not own. This population influx increased densities and added to the number of existing kampungs or low-income neighborhoods which had been settled in a haphazard manner throughout the city for more than a hundred years. The provincial government now recognizes these kampungs as permanent settlements even though few residents hold legal title to the land or houses they occupy. Kampungs now encompass more than 65% of the city's urbanized area and contain 80% of the population. The remaining portion of the urbanized area consists largely of industrial development east of the city and high-income residential and industrial development to the south (Annex 1).

B. Population and Growth

2.03 Indonesia ranks as the fifth most populous country in the world with a population of 128 million. About 18% of the people reside in urban areas and Jakarta itself accounts for some 22% of the total urban population (Annex 1). Sixty-nine percent of Indonesia's population is concentrated on the island of Java which is only 7% of the total land area. The average rural density of 663 persons/km² is nearly as high as in many urban areas in the industrialized nations. It has created intense pressures on available agricultural land and consequently pushed thousands of unskilled, uneducated farmers into urban centers faster than the latter have been capable of absorbing them and providing a minimum level of urban services or shelter. The rate of natural population increase in Java has been 2.1% a year in the last decade: but in addition to this, Jakarta has experienced a rate of immigration of 2.5% a year over the same period. Most cities with populations of more than 200,000 experienced similar or higher in-migration rates during this period. Both Jakarta and Surabaya, Indonesia's second largest city (2 million) situated in eastern Java, nearly doubled in size. The current average density in Jakarta is about 8,000 persons/km², but central city densities reach above 21,500 persons/km². Since most people live in single-story dwellings and not apartment buildings, density is a particularly accurate indicator of crowded living conditions.

2.04 The economic attractiveness of migrating to Jakarta in search of employment is evident from the disparity between the average per capita GDP in the capital city and other provinces: in 1971, it was double that at regional levels, or US\$160 compared to US\$80. Employment opportunities, whether real or perceived, coupled with rural population pressures, seem likely to perpetuate the migration trend toward urban centers. Neither acceleration of the much needed rural development program nor the transmigration program for resettling the rural poor in sparsely populated outer islands holds much promise for alleviating the problems of urban poverty and growth which already plague Jakarta.

2.05 Over the last two decades, Jakarta has been sprawling over an increasingly wider area (Map No. 10743); the central, densely urbanized core

lying within a 6 km radius of Merdeka Square now comprises some 180 km². More than two-thirds of the present population resides in this core area, roughly one-third of the total city area. If present population and urbanization trends continue, the metropolitan region of Jakarta (which is ten times as large as the city) would grow from a present population of 7 million to 12 million by 1985 and 18 million at the end of the century; at the same time, the densely urbanized area could also be expected to nearly triple in size, and contain over 60% of the total metropolitan population. This would imply that present inner-city densities would spread a further 10 km outwards. It is this inexorable population growth and unplanned urban development, repeated on a smaller scale in other cities in Java, and the potential claim on limited resources they entail, that is the fundamental urbanization problem in Indonesia. This provides the background for this first Bank Group project in Jakarta. A two-pronged strategy is indicated: first, a greater emphasis on a low-cost, minimum-standard approach to better planned urban communities; second, mobilization of financial resources from within the urban area to promote such development.

C. The Present Situation

Infrastructure

2.06 The continued growth of Jakarta means a steady increase in the demand for urban services already in short supply. Policy decisions to change the allocation of scarce revenues and the pattern of development are long overdue. Up to now, infrastructure investment has mainly benefited the upper-income groups. Moreover, the existing infrastructure is grossly inadequate, and a massive urban planning and development effort is needed not only to meet immediate requirements but also for the large population growth expected in the next two decades. Several sectors require immediate attention. The water distribution system has deteriorated to the extent that officials contend an increase in pressure would increase leakage rather than supply. Some excess capacity is available at the pumping stations but distribution lines need to be replaced and new lines constructed. More than 50% of the population relies on groundwater wells, which are often contaminated by sewage seepage and increasing salinity due to depletion of the fresh water aquifer. Approximately 40% of the households in Jakarta depend solely on water vendors for their supply at prices five times greater than the charges for piped water. Jakarta has no water-borne sewer system. Even houses having piped water flush sanitary wastes into septic tanks or more frequently into open ditches along the roadside. Much of the population, however, has no alternative other than to use the drainage canals for bathing, laundering and defecation. Most of the city's uncollected garbage (estimated in a World Health Organization Study as 30% of the daily load) ends up in canals and rivers and along the roadside where it clogs drainage channels and causes extensive flooding during the rainy season. Flood waters then sweep the raw sewage and garbage out of the ditches and canals back into

the kampungs. In the dry season when there is insufficient flow to drain off wastes they decay in exposed areas and pose a serious health hazard for the community.

Kampung Improvement

2.07 During the Government's First Five-Year Development Plan (1969-74) the Jakarta Provincial Government (DKI) began a program of upgrading the physical infrastructure in kampungs. This Kampung Improvement Program (KIP) evolved from the Central Government (INPRES) program that supported both rural and urban works by distributing funds on a per capita basis to local government districts for infrastructure improvements. From 1969-74, DKI upgraded about 2,400 ha or about 10% of its urbanized area at a cost of about US\$6,500 per hectare. The program directly benefited about 1.2 million residents or 25% of the population at a per capita cost of about US\$13, or US\$28 at estimated June 1974 price levels. The increased standards and scope of the kampung program proposed for assistance under this project covering 1,980 ha and benefiting 890,000 people would involve an estimated per capita cost of about US\$40.

Housing

2.08 Most houses in Jakarta were erected initially on a self-help basis by the occupants with temporary materials and gradually improved over a period of years to permanent dwellings with stucco-covered brick walls, tile floors and tile roofs. This process of scattered economic improvement within kampungs has led to the socioeconomic mix which is today an accepted pattern of community life. Community stability can be attributed both to the extreme scarcity of housing and the high cost of urban land. With virtually no real estate market, and no mortgage system, low- and middle-income families have few opportunities to shift residential locations. Property transfers are also complicated because after the period of Dutch occupation land claims were difficult to verify and little of the urban area was officially registered. To rectify this matter, DKI is currently mounting a drive to register property titles throughout the city as a prerequisite for imposing a sound property tax system. A 1969 survey of Jakarta housing conditions showed more than 900,000 families (average size of five persons) living in 486,000 dwellings. In addition to housing needed to relieve these overcrowded conditions, it is estimated that by 1983, a further 500,000 families would need to be housed in Jakarta. The survey also demonstrated the poor quality of Jakarta's housing: 68% had no private toilet facilities, 80% had no electricity, and 60% had no access to piped water. Permanent houses with solid walls, cement floors, and tile roofs constituted 24% of the total housing stock; temporary houses of bamboo matting walls, earthen floors, and thatch roofs comprised 44%; and semi-permanent structures having some combination of temporary and permanent materials accounted for the balance (Annex 1).

Metropolitan Planning

2.09 A physical development Master Plan adopted in 1967 continues to be the basis for city-wide zoning. The plan was based on inadequate analysis

of the relationship of the city and its surrounding region, and overlooked the potential for alternative land use patterns, including development of satellite towns, that could relieve inner-city congestion. A major deficiency of the Plan is that it prescribes new industrial and commercial zones to the east and residential zones to the west of the city with little regard to their transport implications. This has led to low-income kampungs outside the residential zones and close to major job centers. Further, as the City Government has not developed sufficient low-lying land to the east and west in order to implement the zoning plan, Jakarta has continued to sprawl southward. This tendency has been reinforced by high-income developments for the car-owning population on higher land in the south. Moreover, the responsibility for planning the city and its metropolitan region has been divided between two local governments, DKI and West Java, with little coordination in exercising their planning functions. Thus the present land use bears little resemblance to the 1967 Plan.

D. Urban Growth: Indicative Economic and Physical Planning

2.10 Problems of unplanned population growth and urban sprawl discussed above point to basic issues needing analysis in the determination of investment priorities in view of the numerous competing demands for Jakarta's limited resources. An attempt to provide modern municipal infrastructure, i.e. transport, water supply, sewerage, electricity, etc. and to concentrate on the expansion of modern sector jobs on the pattern of cities in more developed countries would involve extremely high capital and operating costs which are at present beyond the financial capacity of DKI. Therefore, a moderate cost physical infrastructure program needs to be prepared for the city - one which will address the dual goals of improving the quality of life and of significantly increasing employment opportunities for all residents, not primarily upper-income groups. The proposed project was designed to serve these objectives. To demonstrate that within the limits of Jakarta's resource constraints the proposed approach to urban development would be viable over the long term, the appraisal team outlined a 20-year indicative development program for Jakarta which is described in Annex 2. This indicative plan illustrates how an investment program might be balanced and phased to achieve economic, social and physical infrastructure improvements. It was assumed that public sector emphasis would be placed on job creation in traditional urban sectors where capital costs per worker would be less than in the modern sectors; that major urban sector investments would be implemented on a priority basis and that housing, along with neighborhood infrastructure investments would be directed toward, though by no means limited to, lower-income groups. Because developing wholly new communities such as site and service areas requires substantial initial capital investments, the perspective plan focuses on the incremental improvement of existing kampungs. On this basis, the 20-year program indicates that by restraining major modern sector investments and at the same time increasing municipal/provincial revenues, it should be possible to provide the entire metropolitan urbanized area with a level of infrastructure at least equivalent to that proposed for the site and services

project area. Actual development costs would depend of course on the adoption of appropriate policies for directing the physical expansion of the metropolitan community.

2.11 In an effort to exert control over land use in the city, DKI has started buying land for future development purposes, but in the face of accelerating urban sprawl this tentative initiative needs to be vigorously pursued in conjunction with an economic and physical growth strategy for the greater Jakarta metropolitan area - including the development now spilling over the Jakarta borders into the surrounding province of West Java. To undertake the coordination, implementation and evaluation of such a strategy, the Central Government is establishing a Greater Jakarta Planning Board that will include representatives of GOI ministries and the provincial governments of Jakarta and West Java. Detailed planning preparation will be the responsibility of the Board's technical arm, an expanded metropolitan planning group already functioning within the Directorate-General of Housing, Building, Planning and Urban Development (Cipta Karya). Technical assistance to support this planning activity is incorporated in the proposed project (para 3.11).

E. Property Tax Revenue Potential

2.12 The Second Five-Year Development Plan (Repelita II) 1974-79, attaches more importance to urban development than did the First Plan. It calls for the establishment of national institutions to promote the financing and execution of low-cost housing projects for low-income families, and aims to direct Central Government revenues toward investment projects in regions other than Jakarta. While in the short-term the Central Government has sufficient resources from its oil revenues to increase in absolute amounts the funds allotted to DKI and investments in the capital city, over the longer term the proportion of GOI funds flowing into the city could be expected to diminish. Jakarta currently relies heavily on financial transfers from the Central Government (23% of city revenues in 1972/73). From 1968-71, the city absorbed about 18% of all Central Government infrastructure investment projects; 32% of all domestic investment projects and 75% of all private foreign investment projects other than oil, mining and forestry. Most of this investment has been infrastructure for industrial and commercial growth, rather than in facilities to improve living conditions for the urban poor. Under Repelita II, the gradual shift away from concentrating GOI resources in Jakarta raises basic questions regarding alternatives available to DKI in financing its needed investments. The substantial resource requirements are illustrated in Annex 2. Major sectoral studies now underway or recently completed call for large-scale infrastructure programs costing millions of dollars. While the city may not in fact undertake all proposed programs, even a minimum-standard approach calls for new resources to be found both to replace reduced national resource transfers and to sustain new investments.

2.13 The feasibility of substantially raising DKI revenues is indicated in a study of the land use tax (IREDA) levied in Jakarta (summarized in Annex 3) which was carried out by consultants financed by the IDA Technical Assistance Credit to Indonesia. IREDA now provides only 4% of city revenues (US\$0.25 per capita). This is conspicuously low in terms of the real land value base in Jakarta and in comparison with the portion of revenue (25%-50%) that major cities in other countries obtain from land property taxation. During negotiations, consultant recommendations on measures to substantially increase IREDA revenues were reviewed and discussed and the Government indicated its commitment to continue improving the present IREDA tax mechanism by periodic review and modifications of both assessment and collection procedures. Progress reports will be submitted to the Bank annually.

F. Institutional Development

The National Urban Development Corporation

2.14 The major urban initiative of the Second Five-Year Development Plan (1974-79) is formation of The National Urban Development Corporation (NUDC) which will buy urban land throughout the country to develop and resell for specific residential, commercial, or industrial uses. In this way the Government hopes to aid cities by directing the course of physical expansion with the strategic location and nature of its projects. Establishing a government corporation to undertake such projects offers the advantage of combining government seed capital and authorization to borrow from both public and private sources to develop facilities neglected by the private construction sector. The scarcity of developed urban land in Indonesian cities has led to extensive speculative investment surrounding those limited areas where public funds have been expended for infrastructure and service improvements. It is anticipated that the Corporation through its projects would recapture a portion of the benefits from public infrastructure investments now accruing to private land speculators. Initially, the GOI will capitalize NUDC with about US\$2.5 million. This amount would be augmented annually according to requirements of the work program to be prepared in consultation with technical advisers to be provided under the proposed project. It is expected that most of the Government funds allocated for housing development during Repelita II (about US\$60 million) would be channeled through NUDC. The Government is patterning the NUDC along the lines of urban development authorities in the neighboring nations of Singapore, Malaysia and the Philippines which have experience in executing both residential and commercial projects. In preparing the preliminary framework for the NUDC, Indonesian officials visited the housing and development authorities in Kuala Lumpur, Singapore and Manila, and consulted experts familiar with the operations of the New York State Development Corporation. Appointment of the NUDC Managing Director and the Project Manager is a condition of effectiveness of the proposed Loan.

The National Mortgage Bank

2.15 As part of the Repelita II effort to stimulate urban development a National Mortgage Bank (NMB) has been established by restructuring the existing Bank Tabungan Negara as a mortgage institution. Since Indonesia has no mortgage system at present and no long-term loans are available for housing development, the housing construction industry has lacked the financial resources necessary for growth. Consequently, inauguration of a mortgage finance mechanism is expected to vitalize the residential construction sector throughout the country. NMB's first experience with long-term mortgage payments will be the lots sold as part of the site and service program. Technical assistance for developing operating policies and procedures is being requested from bilateral donors. The GOI will initially commit about US\$7.5 million as equity capital for the NMB, but it is anticipated that private and public foreign institutions will make available significant additional funds.

G. The Urban Strategy

2.16 In the light of the above, the proposed project concentrates on the following main elements of an urban development strategy for Jakarta:

- (a) Support for new national institutions for developing urban land and financing housing mortgages;
- (b) Improvement of the IREDA property tax in Jakarta so as to mobilize resources required for continuing urban development;
- (c) Execution of an investment program to demonstrate the potential of a low-cost, minimum-standard approach to both kampung improvement and new community development; and
- (d) Creation of a Greater Jakarta Planning Board responsible for the preparation of a metropolitan growth strategy and priority infrastructure investment decisions to implement that strategy.

III. THE PROJECT

3.01 The project would be the first undertaking of the National Urban Development Corporation (NUDC) established as part of Repelita II (the Second Five-Year Development Plan, 1974-79) for the purpose of buying and developing urban land as residential, commercial, and industrial sites with particular focus on low-income housing. In the course of the 3-year project implementation period, the NUDC would gain experience necessary for preparing and developing similar projects in other Indonesian cities. The National Mortgage Bank established as part of Repelita II would also gain experience from this project. The project involves financial and technical support for two programs in Jakarta to benefit low-income residents: The Kampung Improvement Program (KIP) is an ongoing activity of the Jakarta Government (DKI) for upgrading the infrastructure in crowded kampungs and the Site and Service Program is a first effort at developing residential sites with urban services primarily for low-income families. Technical assistance provided under the project would support project execution; development of the institutional capabilities of NUDC; preparation of feasibility studies for similar projects in as many as eight additional cities; and planning activities of a Greater Jakarta Planning Board.

3.02 Project investments will include:

(a) Kampung Improvement Program

Physical infrastructure improvements will be made in 1,980 ha of densely settled neighborhoods to benefit directly about 890,000 low-income residents.

(b) Site and Service Program

About 130 ha of rural land east of Jakarta's rapidly expanding urbanized area will be developed with urban services and subdivided into about 7,930 residential lots for sale primarily to low-income families.

(c) Technical Assistance

Assistance will be provided for the NUDC for purposes of management assistance, project execution, and preparation of additional projects in as many as eight other cities. Assistance will be provided to Cipta Karya as the technical arm of the Greater Jakarta Planning Board for a review of current sector studies in the Jakarta region and development of a metropolitan growth strategy.

A. Kampung Improvement Program

3.03 To support Jakarta's program for upgrading impoverished kampungs, basic amenities will be provided under this project in an area of about 1,980 ha over a two-year period. Improvements to be made on 955 ha in the first year have been identified and some of the civil works contracts awarded (Map No. 10728). Improvements required on a further 1,025 ha for the second year will be identified in the normal course of annual program execution. The average population-density in kampungs identified for the first year is 450 per hectare. The KIP for 1974-76 would improve about 18% of the urbanized area of Jakarta and benefit about 20% of the population. The items to be financed by proceeds of the Loan include footpaths, secondary roads, surface drainage ditches, and public water taps as well as schools, health centers, communal sanitary facilities, and garbage collection facilities and trucks. Residents of each kampung participate in the planning process through local representative committees and help to determine priority improvements to be made within a framework of established design standards. The following planning standards (Annex 4) were used to derive the cost estimates and with assurances obtained from the Government during negotiations, would apply for the program:

- (a) About 130 m of footpaths per hectare;
- (b) About 75 m per hectare of vehicular roads;
- (c) Public water taps to supply about 30 l of water/day/person located about one per four hectares;
- (d) Communal sanitary units (MCKs); with a 12-person capacity, each to serve about a 12-hectare area;
- (e) Concrete garbage bins, hand carts and trucks to collect and dispose of solid wastes;
- (f) Schools to provide spaces on a double-session basis for 40% of the children eligible to attend (grades 1-6); and
- (g) Health clinics in project kampungs not presently served by a district clinic.

B. Site and Service Program

3.04 A site of 130 ha of lightly populated and partially cultivated paddy land in Jakarta will be developed under the project with urban infrastructure and subdivided into about 7,930 lots, most with core houses (Map No. 11152). About 45 possible sites were first identified from an examination

of aerial photographs as suitable for more intensive use. From an evaluation of these sites according to their locational relationships to major employment opportunities, existing roads, existing municipal water distribution lines, directions of desired urban growth and ultimately the cost of acquiring the land, a site was selected east of Jakarta at Klender (Map No. 10709) located 5 km east of the Central City, 3 km southeast of the IDA-financed, Pulo Gadung Estate (Credit No. 428-IND) and 1 km from the main railway line eastward from Jakarta. Development costs at Klender would be moderate and job opportunities plentiful in the eastern commercial-industrial part of the city.

Land Use

3.05 The site, designed for a population density of about 300 people per hectare, has been apportioned on the following basis: 562% for developing about 7,930 lots, of which 70% (5,590) would measure 80 m²; 24% (1,900) would be 140 m²; and 6% (440) would be 200 m². Each would directly border a road or a paved footpath. About 18% of the site area would be used for roads and footpaths, 17% for community facilities and 3% for commercial development (Table 3, Annex 4).

Core Shelter

3.06 A minimum-standard core shelter would be provided on 94% of the residential lots, those measuring 80 and 140 m², in order to regularize site development and facilitate rapid occupancy of the developed lots. Families would then undertake improvements gradually as their individual incomes permit. A program would be conducted during the implementation period to teach residents self-help construction techniques and appropriate ways to expand their core units. Each core unit would measure 20 m² and consist of a compacted lime and earthen floor; stanchions supporting a clay-tile roof, bamboo matting walls, and a sanitary core with one septic tank common to four units. Although this bamboo construction which predominates in existing kampungs needs to be replaced about every three years, during that time a family could gradually begin building with more durable materials as their savings permit. The Government is considering making available through NMB loans for the purchase of building materials, but settlers would not be obligated to take such loans. The government plans to limit such loans to no more than 30% of the lot purchase price.

Target Population

3.07 The population groups that would benefit from the site and service program were identified by examining available data which indicates a willingness of low-income households to allocate as much as 20% of income for housing. Table 4, Annex 1, presents the distribution of household income in Jakarta updated to estimated 1976 levels when site occupancy would commence. On the basis of a 25% downpayment, a 15-year mortgage at 12% annual interest, it appears that the 80 m² lots would be available to families at the 20th percentile and the large 140 m² lots could be financed by families at the

50th percentile. Lot prices are summarized in para 4.05. Some variations in downpayments and mortgage terms as outlined in Table 3, Annex, 6 could make the lots available to an even larger segment of the population. Determination of the eligible income group took into account the household budget burden of monthly payments (about Rp 400) for water supply and refuse collection. It is assumed that families below the 20th percentile would benefit from kampung improvement and those above the 60th percentile would be served by the private housing market.

Infrastructure

3.08 The site and service infrastructure standards are somewhat higher than those in the KIP due to the fact that the investment costs would be recovered through lot sales and it is less expensive in a new area to construct roads and water systems than in existing neighborhoods. However, the DKI expects to gradually raise KIP standards and continue its program until the entire city attains an adequate service level, equivalent to the site and service standard. Assurances were obtained during negotiations that all the facilities and services, i.e., the infrastructure external to the site, would be executed promptly.

3.09 Basic project investments will include the following (see Annex 4):

- (a) Roads. All roads, main (2.8 km) and secondary (13.9 km) will be constructed with drainage ditches to minimum appropriate standards. Vehicular roads in the project area will amount to about 123 m/ha.
- (b) Footpaths. About 40 km of concrete footpaths will be constructed with drainage ditches, 300 m/ha.
- (c) Water. Individual lots will receive about 300 litres daily through private connections to the city system.
- (d) Community Facilities. Schools, health clinics, police and fire station, post offices, recreation areas and mosques. Schools will be constructed and equipped to serve 60% of the eligible population (grades 1-8);
- (e) Sanitation. Individual lots will be served by septic tanks. Garbage bins will be constructed at regular intervals; and
- (f) Vehicles. Garbage collection trucks, vacuum trucks, and a fire engine will be provided.

C. Technical Assistance

3.10 Consultants will be retained to assist the National Urban Development Corporation in the following:

- (a) To assist the Managing Director to develop staff capabilities and the policies and procedures for planning and executing projects in the urban sector including preparation of a 5-year work program.
- (b) To assist the Project Manager in general project execution, supervision and training, including engineering, accounting and management services to the Project Unit. A firm has been selected and contract negotiations started.
- (c) To assist in the preparation of feasibility studies for urban development projects in as many as eight other cities.

3.11 Consultants will also be retained to assist the Greater Jakarta Planning Board by providing advisory services to Cipta Karya which is responsible for coordinating the technical work of the Board. Advisers will work with the Director-General of Cipta Karya in developing an economic and physical growth strategy for the area, determining the priorities of proposed sector investments within a five-year investment program, and formulating terms of reference for further studies in the metropolitan region.

3.12 During negotiations assurances were obtained that the consultants would be acceptable to the Bank and would be retained on terms and conditions satisfactory to it.

IV. PROJECT COSTS, FINANCING AND EXECUTION

A. Cost Estimates

4.01 The project is estimated to cost Rp 21,173.1 million (US\$51.0 million equivalent), with a total foreign exchange component of Rp 4,797.5 million (US\$11.57 million equivalent). Cost estimates are detailed in Annex 4 and summarized below:

	Rp Million			US\$ Million			F.E. Component %
	Local	Foreign	Total	Local	Foreign	Total	
A. KAMPUNG IMPROVEMENT PROGRAM							
1. Land Survey	54.2	-	54.2	0.13	-	0.13	-
2. Civil Works:							
(a) Roads and Bridges	4,753.4	1,188.4	5,941.8	11.45	2.86	14.31	
(b) Footpaths and Bridges	2,281.7	570.4	2,852.1	5.50	1.37	6.87	
(c) Drainage Canals	1,609.4	-	1,609.4	3.88	-	3.88	
(d) Water Supply	565.6	242.4	808.0	1.37	0.58	1.95	
(e) Sewage and Garbage	458.0	114.5	572.5	1.10	0.28	1.38	
(f) Schools and Health Clinics	2,275.1	758.4	3,033.5	5.48	1.83	7.31	
Sub-total	11,943.2	2,874.1	14,817.3	28.78	6.92	35.70	20
3. Vehicles:							
Garbage and Vacuum Trucks	-	114.3	114.3	-	0.28	0.28	100
Total KIP	11,997.4	2,988.4	14,985.8	28.91	7.20	36.11	20
B. SITES AND SERVICES							
1. Land	1,235.0	-	1,235.0	2.98	-	2.98	-
2. Civil Works:							
(a) Site Preparation	35.8	-	35.8	0.09	-	0.09	
(b) Internal Infrastructure	622.9	155.7	778.6	1.50	0.38	1.88	
(c) Community Facilities	261.6	65.4	327.0	0.63	0.16	0.79	
(d) External Infrastructure	235.7	58.9	294.6	0.57	0.14	0.71	
(e) Core Houses	793.0	198.3	991.3	1.91	0.48	2.39	
Sub-total	3,184.0	478.3	3,662.3	7.68	1.13	8.84	20
3. Vehicles:							
Garbage and Vacuum Trucks	-	21.3	21.3	-	0.05	0.05	100
4. Administration, Engineering and Supervision	167.5	-	167.5	0.40	-	0.40	-
Total Sites and Services	3,351.5	499.6	3,851.1	8.08	1.21	9.29	13
C. TECHNICAL ASSISTANCE							
1. National Urban Development Corporation:							
(a) Project Execution	62.3	186.3	249.0	0.15	0.45	0.60	
(b) Management Assistance	30.1	269.8	299.8	0.07	0.65	0.72	
(c) Feasibility Study	33.1	166.0	199.2	0.08	0.40	0.48	
2. Cipta Karya:							
Jakarta Metropolitan Planning	8.2	232.4	240.7	0.20	0.56	0.58	
Total Technical Assistance	132.7	854.0	987.7	0.32	2.06	2.38	87
D. CONTINGENCIES							
1. Physical	270.4	145.4	415.8	0.65	0.35	1.00	35
2. Price Escalation	622.6	310.1	932.7	1.50	0.75	2.25	33
Total Contingencies	893.0	455.5	1,348.5	2.15	1.10	3.25	34
GRAND TOTAL	16,375.6	4,797.5	21,173.1	39.46	11.57	51.03	23

4.02 Cost estimates for the Kampung Improvement Program and the Site and Service Program (Annex 4) are based on preliminary engineering designs at June 1974 price levels. Price escalation assumed for KIP and site and service in the second half of calendar year 1974 is 7.5% for civil works and administration, and 5% for vehicles and technical assistance. For subsequent years of project execution, price escalation is estimated at 15% per year for civil works and 10% per year for vehicles and technical assistance. For the site and service component, physical contingency allowances are 15% for infrastructure and 10% for other civil works, equipment, administration and technical assistance. Any cost overruns for KIP would be compensated by reducing, not the standard of improvements but the number of hectares improved. Cost estimates for KIP shown in the table in para 4.01 include contingencies.

B. Financing

4.03 Of total estimated project costs about 49% would be financed with proceeds from the proposed IBRD Loan (US\$25.0 million) including the foreign exchange component of US\$11.57 million and some 37% of the local currency component excluding land acquisition. The Government share of project costs would be financed on the basis of approximately 14% from GOI and 37% from DKI. The DKI contribution would flow from normal budgetary channels; the GOI contribution would flow from budgetary sources for infrastructure external to the site and service area and from two national institutions, the NUDC for site and service construction and the NMB for mortgage financing of the site and service lots. The financing plan is summarized in the table below and detailed in Annex 6.

Project Component	(US\$ million)						
	Estimated Cost	DKI	%	Source of Funds			
				GOI	%	IBRD	%
Kampung Improvement	35.8	17.9	50	-	-	17.9	50
Site and Services							
Land	3.0	-	-	3.0	100		
Site preparation							
Civil works, engineering, housing, and community facilities	8.8	.8	9	3.9 ^{/1}	44	4.1	47
Vehicles	.3	-	-	-	-	.3	100
Technical Assistance	<u>3.1</u>	<u>-</u>	<u>-</u>	<u>.4</u>	<u>13</u>	<u>2.7</u>	<u>87</u>
Total	<u>51.0</u>	<u>18.7</u>	<u>37</u>	<u>7.3</u>	<u>14</u>	<u>25.0</u>	<u>49</u>

^{/1} Of this amount 1.2 million will be provided from budgetary sources for secondary schools and external infrastructure; the remainder will be provided as follows: US\$1.7 million as a equity to NUDC and US\$1 million as a portion of a subsidiary loan together with the proceeds of the IBRD Loan.

4.04 The Borrower, GOI, will pass nearly all the proceeds of the proposed Loan through subsidiary loan arrangements to DKI and NUDC for purposes of project execution. The completion of such agreements satisfactory to the Bank is a condition of effectiveness of the proposed Loan. The financial arrangements will be as follows:

- (a) DKI. Of the proposed IBRD Loan for US\$25.0 million equivalent about US\$18.2 million will be relent to DKI to finance about 50% of the civil works construction in its two-year Kampung Improvement Program and to finance 100% of the foreign costs of procuring refuse collection vehicles. This subsidiary loan will bear an interest rate of 8-1/2% per annum, repayable over 20 years, including a five-year grace period during which interest would be waived. The balance of the funds required for the KIP (US\$17.9 million) will be provided from DKI's budgetary resources.
- (b) NUDC. For the site and service program, estimated to cost a total of US\$8.8 million, excluding land, a subsidiary loan from the Borrower to NUDC would cover

75% of the civil works required for site development. This subsidiary loan, estimated to be at least US\$5.1 million, would include about US\$4.1 million of the proceeds of the IBRD Loan and US\$1 million from GOI's own resources. The remainder of the site and service costs (US\$3.35 million) would be financed as follows: US\$1.2 million for secondary schools and external infrastructure from GOI budgetary sources US\$.8 million for community facilities and services from DKI budgetary sources and US\$1.7 million from NUDC equity. The subsidiary loan bearing an interest rate of 12% per annum would be repayable upon receipt of the proceeds of the lot sales.

- (c) Technical Assistance. For technical assistance, the proposed Loan would provide about US\$2.7 million of total US\$3.1 million requirement. The IBRD portion utilized by NUDC would be treated as equity and that portion expended by Cipta Karya as a budgetary transfer.

Mortgage Arrangements and Lot Prices

4.05 The National Mortgage Bank would extend mortgage loans to eligible purchasers of the 80 m² and the 140 m² lots for up to 90% of the purchase price on terms of 12% interest per annum for a period of 15 years. NMB would finance these mortgage loans partially from equity capital (US\$7.5 million equivalent from GOI during Repelita II) and partially from a Central Government loan bearing an interest rate of 8-9% per annum, repayable in accordance with the aggregate of mortgage loans. Prices charged for individual lots (including core houses) in the site and service area are based on recovering the relevant administration costs of NUDC, interest during construction, and the full site development cost, exclusive of municipal services which are the responsibility of government agencies, i.e., schools, refuse collection, etc. The 140 m² lots would be priced at full development cost or about Rp 708,622 (US\$1,708). The large 200 m² lots and the commercial property would be sold on a cash basis at market value with the differential profit being applied to reducing the 80 m² lot charge to less than development cost. Based on the prevailing real estate market in Jakarta, market value has been estimated as 100% above cost. Calculated in this way the estimated price of a 200 m² lot would be about Rp 1,436,000 (US\$3,460). The 80 m² lots should be available at a price of about Rp 411,722 (US\$992) or even less if the profit margin from market value sales is larger than estimated.

Impact on Government and its Agencies

4.06 The financial burden on DKI of repaying to GOI over a 15-year period an amount equivalent to the on-lent proceeds of the proposed IBRD Loan would be substantial because the KIP program generates no direct cash return. The GOI has considered the possibility of imposing a betterment tax on residents of the improved kampungs, however, since no such tax is currently levied in higher income neighborhoods where urban services are

provided routinely, it was decided that to institute a special tax on KIP beneficiaries would be inequitable. Past experience shows that improvements to community infrastructure encourage families to invest in upgrading their own houses. This process is expected to continue, thus increasing the value of property which would ultimately be reflected in higher property tax (IREDA) revenues, provided property is assessed on a sound basis. In these circumstances the answer to the question of how to generate revenues for repayment appears to be general property tax improvements. According to the assessment of property tax potential outlined in Annex 3, returns could be increased four-fold above Jakarta IREDA revenues in 1971/72. Continued improvement could generate as much as Rp 6 billion (US\$15 million) annually by raising an effective tax rate from 0.4 to 1.0%. Thus, Jakarta appears to have the capacity for increasing revenues to repay its portion of the proposed Loan. The site and service program would impinge on the DKI budget only in requiring services from established budgets for administration, infrastructure maintenance, sanitation, education and health. The NUDC would recover its investment in the site and service scheme at the time of lot sales. For NMB the spread of 3 to 4% on at least half the cost of the mortgages which it finances, would cover its administration costs and adequately provide for the high risks involved in mortgage lending.

C. Execution

Construction

4.07 Separate agencies would be responsible for project construction: the KIP Unit in DKI would prepare and let all civil works contracts for the kampung program based on engineering done by the DKI Public Works Department, exclusive of health center and school construction; on behalf and under control of NUDC, the DKI real estate development agency, PTB, would let all construction contracts for the site and service program based on detailed engineering, site design and contract documents prepared by a local consultant firm. The project implementation schedule is set out in Chart No. 8863. About two-thirds of the KIP contracts for the first year's work have been awarded with the balance due by September 1974. The site and service contracts are scheduled to be awarded late in the first quarter of 1975. About 130 ha at the Klender site has been purchased by DKI and will be transferred free from encumbrances to NUDC. Evidence of ownership will be required from the Director-General of Agraria as a condition of effectiveness of the proposed Loan.

Procurement

4.08 All prospective bidders for civil works contracts in Jakarta must be registered with DKI and classified according to their experience, financial standing and performance on similar works. The nature and size of the work determines which classification of contractors may bid on a particular

contract. This form of prequalification is well established in Indonesia and is satisfactory. Procurement for civil works and vehicles will be done on the following basis:

- (a) For KIP the civil works contracts will be awarded in accordance with the Bank's Guidelines for Procurement except that advertisements for invitations to bid will be limited to local newspapers and will not be transmitted to local representatives of the Bank's member countries and Switzerland. Foreign contractors are not likely to be interested in bidding on KIP civil works because of the difficulty of working in densely inhabited kampungs, the need for close relationships with the residents and local officials, the labor intensive nature of the works and the great number, small size, and short duration of the contracts.
- (b) For the Site and Service Program civil works contracts will be awarded after international competitive bidding in accordance with the Guidelines. In evaluating bids local civil works contractors will be allowed a 7.5% preference over bids received from foreign contractors.
- (c) For the purchase of community service vehicles, international competitive bidding procedures will be followed in accordance with Bank Guidelines. The total estimated value is US\$340,000.

Disbursement

4.09 The Accounts Office of the NUDC Project Unit would prepare monthly statements of work completed on the KIP and site and service components based on spot supervision checks in the field.

4.10 Disbursement of IBRD funds would be made against the following lines:

- (a) 50% of civil works expenditures for KIP against certificates of expenditures certified by NUDC. The detailed documentation would not be submitted for review but would be available for inspection by supervision missions;
- (b) 50% of civil works expenditures for the site and service component of the project against contractor's statement of work performed certified by the supervising consultants;

- (c) 100% of foreign expenditures and 75% of local expenditures for consultant services; and
- (d) 100% of c.i.f. costs of imported vehicles.

4.11 The estimated summary schedule of IBRD disbursements is shown in Annex 7 based on a three-year construction period. The closing date is December 31, 1977. Since the first year of the KIP started with the opening of the fiscal year, April 1, expenditures have been incurred from that date. In order to facilitate an early start on the project, retroactive financing to April 1, 1974 would be permitted for payments made on reimbursable items for KIP in an amount not to exceed US\$3.5 million equivalent.

Accounts and Auditing

4.12 Separate project accounts would be established in DKI, NUDC, and NMB. In the past, DKI has handled its KIP expenditures by charging them against the accounts of various participating departments, such as DKI Public Works, Education, etc. However, now that a separate administrative unit has been established for KIP, it will be necessary to form a KIP account to be processed through the DKI Department of Finance. In addition, the KIP Unit should maintain an independent accounting record of project expenditures because the overlapping nature of program execution from one fiscal year to the next would make it otherwise difficult to isolate project expenses. Each project account would be audited annually by independent auditors acceptable to the Bank. During project execution experienced accountants will be working with each project unit to assist in the establishment of acceptable accounting procedures. During negotiations, assurances were obtained from the Government that the annually audited records of project accounts in DKI, NMB, and NUDC would be available to the Bank no later than four months following the close of the fiscal year.

Operations and Maintenance

4.13 Maintenance of project infrastructure and vehicles would be DKI's responsibility. Community residents organized by local leaders (RWs) would maintain the cleanliness of communal kampung sanitary facilities. It would be the responsibility of the Lurah (sub-district chief) to see that garbage is deposited in neighborhood collection bins for removal by the Sanitation Department. During negotiations assurances were obtained from GOI that the facilities and vehicles provided as part of the project would be properly maintained and operated regularly to serve the urban areas covered by the Project.

V. ORGANIZATION AND MANAGEMENT

A. Project Organization

5.01 Responsibility for project implementation, coordination, and administration will rest with the National Urban Development Corporation (NUDC), an institution established under the supervision of the Ministry of Public Works to buy and develop urban land. For the purposes of this project, NUDC would supervise the KIP program and execute the site and service program. The KIP will be planned and executed by a Unit in the DKI administration. Execution of the site and service program in its construction aspects will be delegated by NUDC to a DKI-owned real estate development corporation, Perusahaan Tanah dan Bangunan (PTB). (Details of project organization are presented in Annex 8 and the relationship of project agencies is illustrated in Chart No. 8683.)

5.02 Although the physical components of the project would be executed within the jurisdictional boundaries of Jakarta, the NUDC would exercise primary responsibility for implementation since a major purpose of this first urban project is to develop a national model which the NUDC can transfer with appropriate variations to other cities. As the project organization chart indicates the NUDC would operate under authority of the Ministry for Public Works which is responsible for implementing policies established by the interministerial National Housing Authority. As Chief Executive of NUDC, the Managing Director would report to a Board of Supervisors for approval of budgets and development plans. With technical assistance to be provided under the proposed project the Managing Director would develop the planning, financial, and engineering capacities of the NUDC and prepare a five-year work program. Appointments to the positions of Managing Director and Project Manager following consultation with the Bank and the full-time assumption of the duties of these posts is a condition of effectiveness of the proposed Loan. The Project Unit within Cipta Karya, in the Ministry of Public Works, which prepared the project, will be transferred to NUDC. With technical assistance as provided in the proposed Loan the Unit will be capable of implementing it. The Manager of the Project Unit in NUDC, who reports to the Managing Director, will be responsible for the coordination and supervision of work carried out by executing agencies.

5.03 The KIP is being executed by DKI under the general supervision of NUDC. Prior to April 1974, KIP was executed by several different departments and only loosely coordinated by the Director of Coordination for all DKI programs. However, to accomplish the more ambitious program envisaged for Repelita II, the Governor has established a separate Unit for KIP with a staff of about 40 professionals who have worked on various portions of the past program. This Unit prepared the two-year program included in the project and is responsible for selecting kampungs to be improved, determining appropriate improvements in accordance with established standards, awarding civil works contracts, supervising the work of contractors, and coordinating the inputs from various DKI Departments, such as Education, Health and Sanitation.

5.04 The site and service component of the project will be executed by NUDC. It is the Government's intention to establish provincial development corporations as affiliates of NUDC, but in the interim period NUDC plans to utilize the existing DKI development agency, PTB, for work in Jakarta. Since 1969 PTB has been executing both public and private sector projects. Although the Manager of PTB is responsible directly to the Governor of Jakarta, for the purposes of this project he would liaise with the DKI Director of Coordination under the general supervision of the Deputy-Governor for Development. A suitably qualified Project Manager has been appointed within PTB to direct a Site and Service Unit. This Unit prepared the preliminary project site plans, engineering and cost estimates. A local engineering consulting firm is being retained to prepare detailed engineering. On behalf of and under NUDC's supervision, PTB would contract with private construction companies for the execution of civil works.

Monitoring and Evaluation

5.05 A team within the NUDC Project Unit would be established to systematically monitor the social response and physical aspects of both the KIP and Site and Service Programs. The firm of consultants retained by the NUDC Project Unit would provide an urban sociologist to help plan and organize an evaluation program. For the KIP, intensive monitoring would be done in selected kampungs throughout the planning and execution phases to learn what impact community desires have on determining infrastructure investments, how many people are dislocated and where they relocate, what self-help improvements are initiated by residents, what property transfers or rentals occur as a result of improvements, etc. Evaluation results would be used to modify the ongoing KIP and to aid the design of a national kampung program. Monitoring of the site and service experience should also result in the preparation of a general model for Jakarta and a national program. The review process would include, inter alia, an assessment of the success of the application process in correctly identifying creditworthy residents satisfying the desired eligibility criteria, the progress in expanding the core houses, community response to new neighborhood responsibilities, the mortgage system, and the compliance with property transfer regulations.

B. Administration of the Site and Service Program

Site and Service Occupant Selection Procedure

5.06 The availability of residential lots for low-income residents would be announced through local Indonesian language newspapers and community officials (lurahs). Each of the 227 kelurahan offices in the city would have pamphlets describing the project with pictures, drawings, and application forms. Applicants would be required to provide relevant information verified either by the community leader and/or employer. Completed applications

would be forwarded to NUDC along with evidence that an amount sufficient to cover the downpayment was on deposit with the National Mortgage Bank. These applications would be reviewed by a selection committee according to established criteria agreed with IBRD as detailed in Annex 8.

Self-Help Construction Training

5.07 NUDC would supervise an on-site training program in construction techniques provided by DKI in order to teach new residents how to complete and eventually expand the core units. In the course of the training program about 10 units would be constructed, approximately one each month during the occupancy period. These units would be sold individually at market value and the profit used to offset the costs of the training program. The Project Unit in NUDC would provide an expert in low-cost housing construction familiar with local materials and construction techniques who would prepare a training program with assistance from the Building Materials Research Institute in Bandung (a division of Cipta Karya). It is anticipated that construction techniques learned during the training program and practiced in the erection of individual houses would prepare some new residents with skills needed for permanent employment in the Jakarta construction industry.

Land Title and Occupancy Requirements

5.08 Occupants will receive a 25-year leasehold title to their lots with options to renew by paying a fee of no more than 1% of the current appraised land value to the Department of Agraria. This long-term leasehold arrangement is the most prevalent form of land tenure in Indonesia and one which the GOI is committed to perpetuating because it facilitates metropolitan planning for long-range changes in land use patterns. Building regulations would be prepared by the consultants doing the detailed design and engineering of the project.

Mortgage Payments and Defaults

5.09 All monthly mortgage payments would be collected through a site office of NMB. A list of families who have been delinquent in their payments for more than three consecutive months would be prepared by the Bank and submitted to local DKI administrative officials who would determine the reasons for delinquency and necessary procedures for collection. After a six-month grace period, the bank would have authority to foreclose the mortgage. An evicted family would be reimbursed its equity share in the property with an appropriate amount deducted as a rental fee for the period of occupancy when no payments were made.

Terms of Resale

5.10 Families desiring to sell their lots within five years of the purchase date would be required to resell the property to NMB which would reimburse the full payments plus the appraised value of any additions made to the core shelter plus a portion of the estimated increased value of the land. The

property would then be resold at purchase cost to a family on the waiting list meeting the original criteria for a project lot.

Community Development

5.11 Throughout Indonesia, but especially in Java, society is highly structured and communities tightly organized. Though urban life has uprooted families from their traditional cultures many customs persist and would be cultivated as much as possible in developing a new community at Klender. For example, the practice of gotong-royong, or helping your neighbor would be stressed as a part of the self-help completion of the core houses. Acting as agent for this community mobilization a civil servant appointed by the DKI Department of Interior would serve as "Lurah" or neighborhood administrative head. The Lurah appointed to administer Klender would participate in the selection of site occupants. From amongst selected families the lurah and the selection committee would appoint individuals to serve as "RWs" or heads of about 150 families and "RTs" to represent smaller units of about 30 families. This community apparatus would then be responsible to helping families settle, organizing cooperative housing construction, collecting money for local garbage collection services and municipal water supply, explaining building and zoning regulations, and maintaining community facilities. Details of community organization and administrative functions of the local officials are presented in Annex 8.

VI. PROJECT JUSTIFICATION

6.01 The Site and Service and Kampung Improvement Programs would have far reaching consequences for the Jakarta region. The project would not only improve physical living conditions for a large part of the population, and provide substantial employment opportunities, but would also have a profound long-term influence upon the direction of metropolitan economic development. The latter objective would be achieved through coordination of investments in industry, urban infrastructure and housing. It is also expected that basic labor productivity would be raised through improved health, access to job opportunities, training and education.

6.02 Substantial benefits should accrue to both Jakarta and the country as a whole through the institutional aspects of the proposed project. With the establishment of the National Urban Development Corporation a project cycle would be set in motion beginning with acquisition of urban land throughout the country for gradual development. The National Mortgage Bank will make long-term money available for the first time in Indonesia to creditworthy individuals at low- as well as high-income levels. And, for Jakarta, the formation of a Greater Jakarta Planning Board would centralize the review process required for all sector investments within a framework of available financial resources, priority needs and desired directions of economic and physical expansion.

6.03 Additional benefits to be generated by this project include:

- (a) Improved living conditions for nearly 20% of Jakarta's population, or about 890,000 people residing in kampungs and about 40,000 who will be residing in the site and service area where project investments will be made;
- (b) Increased employment opportunities for low-income residents as a result of improved access to transport facilities and the expansion of construction activities, of building materials manufacture and of trade and service sectors in new communities;
- (c) Better health standards for Jakarta residents as a result of investments in community and individual sanitary facilities, systematic garbage removal, improved storm drainage channels, community health centers, and a less contaminated water supply;
- (d) Better education opportunities for low-income residents by doubling the number of elementary school spaces presently available in the project kampungs and by providing in the site and service area three times the number of spaces available in urban kampungs;
- (e) Vocational training in construction techniques at the site and service area to aid residents in building their own houses and in learning skills needed for employment in the construction sector;
- (f) The provision of individual home sites with core housing for low-income residents on mortgage terms for the first time in Indonesia.

Economic Return ^{1/}

6.04 The calculation of a quantitative estimate of the economic rate of return is based upon the assumption that benefits can be measured at least approximately, through imputed rental values of property in the project areas. While there are certain project benefits, especially those

^{1/} The economic analysis was performed on the basis of real (constant value) prices estimated as of October 1973. Since that time, price estimates for project inputs have increased substantially. Because the appraisal mission was not able to collect additional survey data on the changes in rental values that have occurred since the original analysis, the assumption was made for purposes of the economic analysis, that recent price increases will affect both benefits and costs equally. Sensitivity analyses have been run to test the assumption of a lag in benefit response.

that are health related, that may be only imperfectly reflected in rental values, such values are believed to provide a useful indicator of the minimum economic value of project outputs. For the KIP project component, the rental values used as a measure of benefits are based upon differences in observed market prices between improved property and non-improved property in similar locations. For the site and service project component, direct observation of sales and rental values for semi-permanent dwellings on serviced lots in comparable locations were obtained.

6.05 Project cost estimates used in the economic analysis include construction, site preparation, on-site infrastructure, self-help dwelling construction costs (for the site and service component) and operating and maintenance costs. In addition, physical contingencies, administration and detailed engineering were included. Infrastructure external to the project site was allocated to the project on the basis of a "with project" and "without project" comparison of the provision of such facilities. Land costs at market prices estimated as of the time of the analysis were included in the site and service component since market prices were judged to adequately reflect opportunity costs. Adjustments were made to project inputs to eliminate taxes and duties. Unskilled labor was shadow-priced to reflect the upper limit of opportunity costs.

6.06 With these assumptions, the economic rate of return for the total project is 17%. A sensitivity analysis for a 25% reduction in benefits and a 10% increase in cost results in a return of 11%. With no shadow-pricing, the return is 16%. The kampung improvement component of the project and the site and service component each have a rate of return of 17% (see Annex 9).

VII. RECOMMENDATIONS

7.01 During negotiations, assurances were obtained from the Government that:

- (a) DKI would carry out its IREDA Tax Improvement Program and that annual implementation reports would be submitted to the Bank (para 2.13);
- (b) DKI would execute the Kampung Improvement Program according to design standards acceptable to the Bank (para 3.03);
- (c) Facilities and services necessary for the execution of the project would be provided promptly (para 3.08);
- (d) Project accounts in NUDC, NMB and DKI would be duly set up, maintained and audited annually separate from other operations (para 4.12);

- (e) Vehicles provided under the project would be properly maintained and operated regularly to serve the urban areas covered by the Project (para 4.13); and
- (f) Criteria for selecting purchasers of site and service lots would include, inter alia, those agreed with the Bank (para 5.06).

7.02 The following events are conditions of effectiveness of the proposed Bank Loan:

- (a) Completion of the subsidiary loan agreements between the Borrower and DKI and NUDC, respectively (para 4.04);
- (b) Transfer of the title to 130 ha of land for the site and services program to NUDC free from encumbrances (para 4.07); and
- (c) Appointment in NUDC of a Managing Director and Project Director in consultation with the Bank (para 5.02) and their full-time assumption of these posts.

7.03 With agreements reached on the above recommendations, the project is suitable for a Bank loan of US\$25.0 million.

INDONESIA

JAKARTA URBAN DEVELOPMENT PROJECT

Urban Background

A. Land Use

1. The area that is now Jakarta was a small trading port named Sunda Kelapa at the time of the initial Portuguese contact in the early 16th century. In 1619, the Dutch overran the city and established a port at the mouth of the Ciliwung River. From this area, with two centers at the old town (Kota) and the port area (Pasar Ikan), the fortress city renamed Batavia grew inland towards the south along the Ciliwung. The old center was subject to flooding and recurring epidemics as the harbor silted up in the 18th and early 19th century. To avoid the flooding, the Dutch built government buildings on slightly higher land to the South, an area that is now the center of the city, Merdeka Square. The residential area of Mentang has developed about 1 km south of Merdeka Square and the new port of Tanjung Priok was constructed to the northeast as a replacement for the badly silted old port.

2. A system of canals was constructed to reduce the problems of flooding and disease epidemics, and an extensive system of urban railways developed. By 1920, intercity rail lines connected Jakarta with Tangerang in the west, Serpong and the Sunda straits in the southwest, Bogor and Bandung in the south, and Bekasi and Cirebon in the east. These rail lines and the roads paralleling them have been major axes for development.

3. Until the mid-1950s the expansion of the city, with the exception of Tanjung Priok Port, had been constantly toward the south where the flooding was less and the climate slightly cooler. Kebayoran Baru, a satellite town for upper-income residents, was built from 1950 to 1965 and now accommodates about 175,000 people. To connect Kebayoran with the city, Jalan Thamrin and Jalan General Sudirman were widened to six-lane highways to form a second major north-south axis to the traditional route from the Kota to Banteng to Kramat Raya and Jatinegara. In the late 1950s and early 1960s imposing monuments, government buildings, hotels and the large sports complex were built to give Jakarta a modern appearance. The employment which these major projects created attracted many new workers to the city. The population grew rapidly in the 1950s largely due to the unrest of the Revolution and immediate post-Independence period of the early 1950s and the immigration stimulated by rebellions in Sumatra and Sulawesi in 1958. This increase continued in the 1960s due to the massive investments pumped into the capital city.

4. The north to south direction of city growth was modified in the late 1960s by the construction of a four-lane ring road. This road provides the only rapid east-west link across the city with the exception of the Ancol road in the north. The effect of its construction has been to provide an opportunity for industrial development in the east, and to stimulate the development of residential areas in an east-west direction between the new road and the existing city.

5. The 1965-1985 Jakarta Master Plan, designed in the early 1960s with UN aid and enacted by the DKI Jakarta Regional Council in 1967, emphasized the growth potential to the east and west along with continued expansion to the south. Most of the new industrial development proposed is in the east, and much of the new residential areas are in the west. A greenbelt, 4 to 5 km wide, is proposed to circle the city, with extensions north and south along natural features such as river valleys. There are major questions regarding the feasibility or desirability of attempting to locate industrial development on one side of the city and residential areas on the other which need to be examined before making further decisions about major sector investments.

B. Demography

Population of Jakarta City

6. The best sources of data on the demography of Jakarta are the 1961 and the 1971 national censuses. They indicate a substantial growth during the decade of 2,906,000 to 4,576,000 persons, an increase of 57.5% over the decade. The latter figure probably underestimates the total population by approximately 500,000 because it did not include persons who had lived in the capital for less than three months. 1/ Thus, the population of Jakarta in 1972 was approximately 5,000,000 persons (see Table 1).

7. The rate of growth for Jakarta between 1961 and 1971 was 4.6% per year, 2.1% for natural increase and 2.5% due to migration. The corresponding overall rate for Indonesia as a whole was 2.0%. The Jakarta city government (DKI) has estimated that the present rate of growth is even higher -- 5.7% per year, 2.4% for natural growth and 3.3% due to migration. 2/ While this rate seems high, it does help to confirm the indications that this rate of growth is at least the same as the past decade despite the introduction of a family planning program and the adoption of a closed city policy in 1971 to discourage further migration by providing a strict registration procedure

1/ Dr. Sam Suharto, Director, Data Processing Center, Biro Pusat Statistik (Central Bureau of Statistics).

2/ Kantor Census dan Statistik, DKI Jakarta.

for migrants. Actual growth has been much higher than the DKI estimate of 4.0% per year used in preparing the City Master Plan 1965-1985.

8. The closed city policy has shown since its introduction little impact on population figures. Under this policy, migrants must show certification from an employer that a job is ready for them or from a school that they have been properly enrolled. In addition, they must report a specific dwelling in which they will stay. Finally, they must deposit money for a return ticket with the RT (official in charge of 20 to 30 families). If they do not have a job after six months they will be returned to their home village.

9. With or without a closed city policy the rate of migration to Jakarta remains substantial due in part to the huge disparity in household income between Jakarta and its primary sources of migrants, West Java and Central Java. Using per capita income figures for 1969 and assuming an average household size of five persons, based on census figures discussed in more detail later, the annual income for a Jakarta household was Rp 197,295 while that of a household in Central Java was Rp 92,080 and that of a household in West Java was Rp 88,100. 1/

10. A recent study of migration over the past decade by Professor Nathan Keifetz of Harvard University for the Department of Manpower and the DKI Jakarta indicates a steady rapid increase of migration at a rate of 89,200 persons per year. 2/ Two-thirds of this total or 57,200 persons per year are between the ages of 15 and 29. An estimate by the Biro Pusat Statistik sets the annual rate of population increase due to migration at 99,600 persons annually. These figures indicate that approximately one-third of the total population increase over the past decade has been due to migration. These are conservative estimates that are lower than those of the DKI government described earlier.

11. The growth of Jakarta over the past 50 years would indicate that high population growth projections are likely to be accurate. The growth of the city has been at a rapid but rather regular pace since 1920 except for the depression and war years and two other periods of extreme dislocation: the revolutionary period of 1948 to 1950 and the revolts in Sumatra and Sulawesi in 1958 to 1959. In the latter period the population grew by 1,000,000 persons within a one-year period. Thus it has been estimated on the basis of past growth that the population of Jakarta will reach at least 7,000,000 in 1981 and 8,850,000 persons in 1986.

1/ Kantor Census dan Statistik, DKI Jakarta.

2/ Nathan Keifetz, Migrants into Jakarta, 1961 to 1971 (Unpublished) (1972).

12. The national government is alive to the prospect of a large Jakarta and accordingly is taking steps to reduce migration through an extensive rural development program, a program of regional government aid to secondary cities and a program of transmigration from Java to the outer islands which has settled 112,000 families (415,000 persons) since 1950. ^{1/}

Population Projection for Metropolitan Jakarta

13. A population projection cannot be made with any certainty for the Jakarta Metropolitan area because its physical boundaries have not been agreed by various planning units. Therefore, using the 1971 census figures it is necessary to include all of the three districts bordering Jakarta -- Tangerang, Bekasi, and Bogor. Except for Bogor, the cities included are small traditional centers serving surrounding agricultural lands. Bogor, with a population of 200,000, has an independent economic base as a tourist center.

14. Industrial growth along the new road to Bogor, spurred by the building of the Indonesian Pentagon, and along the road to Tangerang will stimulate population growth south and west of Jakarta. Given these trends and taking a median of the rates of growth for these areas over the past decade, a rate of growth of 3.8% per year until 1986 seems a reasonable estimate. Thus the population of the metropolitan area outside of Jakarta City would reach 4,565,000 in 1981 and 5,039,000 in 1986. The population for the entire Jakarta Metropolitan area would reach 11,740,000 in 1981 and 14,020,800 in 1986 (see Table 2).

Household Formation

15. For the purpose of determining housing demand, this estimate of total population increase must be translated into an increase in the total number of new households that will need housing. Using a straight line projection that reflects current population trends and assuming a household size of approximately 5.3 persons as in the 1971 National Census figures for Jakarta, there would be approximately 409,000 new households by 1981 or an average of 51,000 new households annually. These households will have to be served by existing municipal and community facilities or an expansion of those facilities.

Projected Unplanned Expansion of Jakarta's Urban Areas

16. Good statistics on the micro distribution and movements of population within Jakarta are not available. However, the DKI Census Office compiles returns from the lurahs (district chiefs) on the registration of incoming and outgoing residents in their kelurahans (districts). These give

^{1/} Mr. R. Soebiantoro, Director General of Transmigration, Ministry of Cooperatives and Transmigration.

a rough guide, but should be treated with caution, due to the under-registration of new residents. A mapping of these statistics reveals that the new urban kampungs of the city are the chief recipients of Jakarta's population growth. They receive not only the incoming migrants, but also some of the households moving out from the densely populated inner kampungs.

17. These new kampungs cover about 35% of the urbanized area of the city but accept about 70% of the population growth. Moreover, average household size is smaller than in the areas housing middle- and upper-income groups. Thus more households are formed and more area absorbed than for comparative growth elsewhere in the city. The newly forming "urban" kampungs have densities of about 310 persons per ha and an average plot size of 170 m², compared with a density of 515 persons per ha and an average plot size of 87 m² in improved kampungs which lie largely within the inner city. Thus it seems likely that the "new" kampungs are forming new households at about 10% per year, probably half of this figure is attributable to the formation of new areas, and half to the densification of the existing ones through plot subdivision. On the basis of 5% per year household increase in new areas, an average plot area of 150 m² ^{1/} and an average of 1.3 households per building, ^{2/} the area of the new urban kampungs is likely to increase from about 5,000 ha and 320,000 households in 1973 to 1,719 ha in 1981 and 3,188 ha in 1986. This increase assumes the continuation of past government policy with respect to non-provision of settlement areas for low-income people. However, if a continuing policy of sites and services similar to that proposed in the accompanying report is implemented, a reduction in this speed of kampung formation could take place.

C. Housing Needs

18. The inadequacy of data reflecting various aspects of life and demography generally in Indonesia and Jakarta is reflected in attempting to estimate the need for housing. There are no adequate data on the amount of housing that is presently being constructed by the Government and private sectors. Thus it is difficult to estimate the amount of housing and municipal services specifically required.

^{1/} A lesser area than the present average, on the assumption that land or rent prices will rise faster than income.

^{2/} Census of buildings 1970 and 1971 by B.P.S. shows the average number of households per building in Jakarta is 2.0 since central areas will have higher than average densities, 1.3 households per building appears to be a reasonable estimation for new kampung areas.

19. However, by any definition, there is an extreme housing deficit. In 1972, BAPPENAS established a team to study the need for housing (Team Research Proyek Pembiayaan Pembangunan Perumahan). Their results indicated that to meet the total Indonesian housing shortage would require the building of 1.5 million houses annually at an annual cost of about Rp 540 billion. It was estimated that 300,000 units would be required annually to meet the needs of the major cities. A separate study conducted by the University of Indonesia reported a present shortage of 1.8 million housing units for Indonesia, with an additional 1,350,000 units required by 1981. The Ministry of Public Works in yet another study has estimated on the basis of 1971 Census figures that the Government must build 70,000 new housing units annually in the major cities until the year 2000 to catch up with existing housing shortages. Unfortunately, none of these studies attempted to define the housing needs for Jakarta.

20. A rough estimate of the housing needs for Jakarta can be made simply to indicate the magnitude of the deficit and the urgency of beginning to plan a program for supplying housing of an appropriate type and cost. Based on the anticipated population growth for Jakarta by 1981, there would be an additional 500,000 families needing shelter in single family units. In addition, if it is assumed that the nearly one million families now living together in less than 500,000 houses would prefer single family dwellings, then another 500,000 units would be required. Furthermore, of the existing housing structures more than 200,000 are constructed of temporary materials such as bamboo and thatch which should in the course of a decade be replaced. On the above basis it is possible to project a need for 1.2 million houses in Jakarta between 1972-83, or about 120,000 units annually. Consultants to Cipta Karya (Planned Community Development, Inc.) estimated present construction of permanent houses in Jakarta at 25,000 units annually. Such units are generally so costly that they can be purchased only by families with incomes above Rp 35,000/month.

Needs of the Site and Service Target Population

21. The target population for the site and service component of the proposed project has been defined as 50% of the population or families with incomes between the 15th and 65th percentiles. Families below the 15th percentile would benefit from the Kampung Improvement Program, and families with incomes in the range above the 65th percentile would be capable of acquiring housing on the open market. If the annual housing deficit is assumed to be approximately 120,000 units annually with April 1973 as the base period, and if at least 50% of this deficit would be required by the sites and services target population, then the annual housing need for the target population would be roughly 60,000 units. By April 1976 when the project would be nearing completion, the cumulative deficit for the group would be about 180,000 units. Therefore, the proposed project which will provide about 8,000 lots measuring 80 and 140 m² would satisfy only about 5% of the estimated requirement for low-income housing units.

D. Household Income-Expenditure Patterns

22. The 1968-69 Jakarta Survey of Income Expenditures and Household Conditions conducted by the GOI Bureau of Census and Statistics is the only source for income and expenditure distributions. However, it is flawed by (a) gross understatement of income in kind, especially housing and cars and other transportation allowances; (b) failure to include income from second jobs and secondary wage earners; (c) lack of consideration of one person households; and (d) mathematical errors in compiling raw data. Despite these problems this survey is the best place to start an analysis.

23. To update the survey a 4.0% net annual growth rate for real per capita income in Jakarta has been assumed based upon a 9.0-9.5% annual growth rate in real income and a 4.5-5.0% annual growth rate in population. The annual rate of growth of the Gross Domestic Product for Jakarta for the period 1967-70 is as follows:

	<u>Gross Domestic Product (adjusted to 1966 prices)</u>	<u>% Annual Increase</u>	<u>Increase in Per Capita Income</u>
1967	29,473,300	-	-
1968	31,637,400	7.3	3.5
1969	34,346,400	8.6	2.3
1970	37,481,200	9.1	6.4

Source: Kantor Census Dan Statistik, DKI Jakarta.

24. The median household income in 1969 has been estimated by the Government as about Rp 10,000 per month. This figure is slightly lower than the average monthly household expenditures of Rp 10,147.

25. The survey figures grossly understate household incomes because of the failure to count transients; secondary wage earners; income in kind; and income from second jobs. These omissions were exaggerated by dropping from the survey persons who earned more than Rp 100,000 per month. Finally, 5-10% of the total households were dropped from the sample because their expenditures exceeded their monthly income by more than 20%.

Transients

26. The income distribution may underestimate the number of persons at the very lowest levels (below Rp 5,000 per month) because it does not take direct consideration of the large number of migrants (now at least 2% of the total population of the city annually) many of whom pick up garbage or get only the most menial jobs. This group should continue to exist in about the same proportions for the foreseeable future.

Secondary Wage Earners and Second Jobs

27. The 1968-69 Survey indicates that 24.2% of all households have secondary wage earners. However, other indications are that as many as 50% of the households have secondary wage earners, especially in the lower income categories below Rp 10,000 per month. Many wives and children earn Rp 2,000-3,000 per month working in the pasar. In addition, many primary wage earners have second and third jobs. The survey did not list the number of such persons though it attempted to count such income. However, secondary wage information is difficult to obtain in any country and Biro Pusat Statistik has acknowledged that the survey probably failed to measure a large portion of household income.

Income in Kind

28. Income in kind is very difficult to measure unless it is given as part of an easily translatable monthly equivalent, such as rice or sugar. Census Bureau officials have acknowledged that it is extremely difficult to value and count payments in kind and that it is quite possible that such payments are understated by 10-15%. Housing expenses and transportation expenditures were definitely understated but there is no way to check this easily. If these payments are indeed understated by that amount it would make a major change in income and expenditure distribution. The Industrial Survey of Jakarta completed in 1970 showed that the value of wages in kind, although varying greatly as a share of total earnings in different industrial sectors, was commonly from 20-25%. ^{1/} For lower grade workers the share would be higher. In some industries it is as high as 50% of total income. The lowest government worker earning about Rp 6,000-7,000 per month with a wife and four children receives about 35% of his total income in kind. ^{2/}

29. Between 1969 and 1973 the Jakarta Price Index increased approximately 90%. Assuming conservatively that the median income in 1969 was Rp 10,000 per month, and assuming that wages in nominal terms increased at 15% per year between 1969 and 1973, the median income in 1973 would be approximately Rp 17,800. Table 4 shows the estimated income distribution based upon the 1968-69 survey that corresponds to these assumptions about income growth. Projections are also made to 1976.

^{1/} Biro Pusat Statistik, Survey Perusahaan Industri (Survey of Industries), 1970.

^{2/} Department of Manpower, Study of Wages and Salaries in Preparation for the Second Five-Year Plan, 1972.

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Jakarta Population Growth

Year	Population
1920	300,000 (C)
1930	500,000 (C)
1941	544,000
1951	1,661,000
1961	2,907,000 (C)
1971	4,576,000 (C)
1976 <u>/1</u>	5,730,000
1981	7,175,000
1986	8,981,000
1991	11,247,000

(C) = Years in which an official census was taken.

Source: Kantor Census Dan Statistik, DKI, Jakarta.

/1 Population projections for 1976 and subsequent years are based on straight line projection of annual rate of increase of 4.6%.

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JAKARTA URBAN DEVELOPMENT PROJECT

Population of Jakarta Metropolitan Area, 1961 - 1986

Municipality	1961	1971	% Annual Increase 1961-1971	% Total Increase 1961-1971	1981	1986	% Annual Rate of Increase 1971-1986
Jakarta (DKI)	2,907,533	4,576,000	4.6	57.5	7,175,000	8,981,800	4.6
Bekasi	692,800	830,700	1.8	19.9			
Bogor	1,314,200	1,668,800	2.4	27.0			
Tanggerang	850,400	1,066,700	2.2	25.4			
Total Jakarta Metropolitan Area	5,763,400	8,142,200	3.5	41.3	11,740,000	14,020,800	3.8

Source: Biro Pusat Statistik, 1971 census.

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JAKARTA URBAN DEVELOPMENT PROJECT

Employment in Jakarta^{1/} (By Sector), 1971
(in number of jobs)

Employment Sector	Modern Skills	Traditional	Total
Government	130,000	-	130,000
Services	105,000	225,000	330,000
Commerce	65,000	255,000	320,000
Transport	45,000	95,000	140,000
Manufacture	120,000	-	120,000
Construction	30,000	60,000	90,000
Agriculture	10,000	35,000	45,000
Mining	5,000	-	5,000
Finance, Insurance, Real Estate, Business Services	35,000	-	35,000
Other	<u>40,000</u>	<u>40,000</u>	<u>80,000</u>
Total	585,000	710,000	1,295,000

Source: Biro Pusat Statistik, 1971 Population Census.

^{1/} Employment data is for the jurisdiction of DKI Jakarta only.

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Jakarta Household Income Distribution

Income Group (Rp/month)	April 1973	1976 ^{/1}
0 - 5,000 ^{/2}	4.4	3.1
5,000 - 10,000	16.4	2.0
10,000 - 15,000	16.6	7.4
15,000 - 20,000 ^{/3}	20.8	11.9
20,000 - 25,000 ^{/3}	13.3	13.0
25,000 - 30,000 ^{/3}	7.7	13.0
30,000 - 35,000 ^{/3}	6.0	11.0
over 35,000 ^{/3}	14.8	39.0
Median Income (Rp/month)	21,000	30,000

^{/1} Based on assumed increase of 15% per year growth in nominal income.

^{/2} In making annual adjustments it was assumed that 80% of the population in this group had incomes above Rp 3,000.

^{/3} In making annual adjustments it was assumed that 75% of the population in each group had incomes in the lower 60% of the total category (i.e., Rp 15,000-18,000; Rp 20,000-23,000, etc.).

Source: Extrapolations from GOI Biro Pusat Statistik, 1968-69, Jakarta Survey of Income Expenditures and Household Conditions.

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JAKARTA URBAN DEVELOPMENT PROJECT

Indicative 20-Year Improvement Program for Jakarta ^{1/}

1. Past approaches to Jakarta's development have clearly fallen short of achieving a widespread distribution of the benefits from improvements in municipal infrastructure and services. While the Kampung Improvement Program carried out by the DKI Government in Repelita I represented a limited recognition of the need to tailor public investment to the benefit of lower income groups, a systematic approach to low-cost, minimum-standard programs has hitherto been lacking. The basic economic feasibility of the approach incorporated in the proposed project design can be stated simply. The provision of modern municipal infrastructure and services and the continued expansion of jobs in the modern sector on the pattern of the more developed world implies extremely high capital and operating costs that are simply beyond the financial feasibility of cities in the developing world. In the specific case of Jakarta, the incremental costs of a modern water supply system, as currently formulated by consultants, would involve a first stage capital expenditure of US\$40 per capita and ultimately average around US\$100 per capita at full development; costs of modern sewage disposal systems would average about the same. Conventional low-cost housing in Jakarta has in the past ranged from a minimum rarely below US\$750-1,000 per family unit for the house alone. Capital costs for job creation typically range from US\$450 per worker in the more traditional urban sectors to over US\$1,500 in the modern sector and several times this amount in more capital-intensive, advanced-technology occupations. Similarly, large investments for modern transport infrastructure and equipment, electricity, police, fire, health, garbage collection and other urban services are presently being proposed by several major sector studies that have either recently been completed or are nearing completion. The major constraint on such capital intensive development is one of financial resources. At Jakarta's present level of per capita income (US\$160), annual gross savings available for financing public and private investment might at best amount to US\$30 per capita. The disparity between these potential savings levels and the cost of providing amenities on the pattern of the more developed world is thus apparent.

^{1/} The cost estimates used to develop this illustrative program were based on July 1973 figures and have not been adjusted to account for price increases.

2. The proposed project represents what should become a systematic approach to designing low-cost, minimum-standard improvements for Jakarta. In order to illustrate the feasibility of such an approach with regard to both a long-term, city-wide perspective and a short-term project design, a projection exercise illustrating a long-term perspective of Jakarta's development was undertaken by the appraisal mission on the basis of available data. This exercise rests on two key assumptions which are integral to establishing a long-term program incorporating a low-cost minimum standard approach. First, it was assumed that the GOI would implement the recommendations of the IREDA Tax Study (Annex 3), which would permit the DKI to generate a more than hundred fold increase in property tax revenues within the next twenty years. Second, it was assumed that modern sector public investments which tend to benefit high-income residents such as those owning cars, telephones, etc., would be constrained below present levels to about 60% of total public investment and that a significant proportion of municipal revenue would be reprogrammed for investment in the traditional sectors benefitting primarily low-income residents.

3. As a result of the greater emphasis on the low-cost, minimum-standard development and the constraining of modern sector public investments, some important implications for the growth pattern of the city have been drawn in the projection exercise. First, the effects of the city continuing to develop along its present trends, was estimated to lead to a spread over an area of some 175,000 ha by 1995, i.e., a more than three-fold increase in land area, while population would also triple in twenty years. On the basis of present density trends, this would imply that roughly one-third of the total urban area would continue to be devoted to residential use. The city could also spread out a full 10 km in all directions beyond its present area (Map 10709). The additional land area of some 100,000 ha would add at a minimum US\$1 billion at current prices to the overall costs of development. More expensive transport solutions would be required. The middle and high-income area would likely grow from 4,500 to 14,750 ha, an area almost as large as the present dense core of the city. At present development costs of US\$150,000/ha for high- and middle-income areas and US\$50,000/ha for conventional low middle-income housing, annual costs of US\$80 million in new investments would be needed if present density patterns continue.

4. As a serious alternative to the continuation of unplanned sprawl, there is the potential of an extremely dense pattern constraining the growth of the urban area by a mere 30% as opposed to the 300% increase in population. Such a pattern would imply that the future dense "core" of the city could increase to include some 80% of the total area. This would require a substantial effort at planning and controlling future land use and channelling private development into high-density alternatives for high- and middle-income housing. The implications of this alternative for Jakarta's resource balance would be dramatic--a saving in land costs of approximately US\$1 billion. Other savings could be effected due to reduced transport network needs, and greater control of job and residential locations. In practice, it is quite likely that only a development pattern midway between

these extremes would be achieved. The implications of the above are drawn in the illustrative perspective described in Table 1. The assumption is made that annual private housing investment will build up to the US\$80 million level in a constrained manner over the next decade and will reflect the constraint placed on conventional public investments in the modern sector. The urban development issues briefly posed above will need greater elaboration and study and would be incorporated in the scope of work for the proposed Metropolitan Jakarta Planning Board.

5. The assumption of an increased IREDA base for the DKI rests on proposals made by tax consultants to GOI as outlined in Annex 3. This is a crucial assumption in the macro projection exercise and, more importantly, is crucial to securing long-term financial independence for the DKI and reducing substantially the flow of national resources into Jakarta.

6. Implementation of a program of upgrading low-income kampungs, as outlined in Table 2, and developing new site and service areas to accommodate the projected population increase in the low- and middle-income categories would require annual public investments rising from a level of US\$25 million in 1975 to US\$107 million by 1995. For Repelita II (1974-78) the implied investment in these programs would be US\$126 million rising more than four-fold by Repelita VI (1994-98) to US\$533 million.

7. Table 1 shows a macro projection of resources and investments and illustrates the potential feasibility of the proposed approach. Over a 20-year period assuming substantial revenue increases from the IREDA tax, public investment in Jakarta could decline from 32% in 1975 to only 11% of the national total in 1995. Foreign aid transfers to the municipal budget, which in recent years have run as high as 75% of total foreign aid disbursed in Indonesia, could be reduced as the city begins to develop its fiscal independence, and Central Government budgetary transfers could be phased out at the end of the first decade.

Implications for Project Design

8. From the framework of the macro level analysis, it is possible to obtain a long-term perspective for a continuing program of site and service schemes in conjunction with a kampung improvement program leading to an upgrading of the entire city. The initial question was of the minimum design standards to be adopted in projecting investment needs. The proposed project site and service scheme is the first systematic effort in Jakarta at promoting a new approach to low-cost community development. Design standards were developed by the Government as the minimum desirable consistent with a balancing of Indonesian community goals and the need to maintain a low-cost profile to benefit a vast majority of low- and middle-income households. ^{1/} The minimum cost of about \$120 per capita in the site and service scheme (including the core house, or \$90 per capita without) is only about one-fifth the cost of past, conventional low-cost housing programs. Yet

^{1/} Both project standards and costs have been updated since this indicative projection exercise undertaken in July 1973.

the minimum standards are substantially higher than presently exist in the kampungs. They represent a level of infrastructure and services that could be realistically attained in Jakarta's kampungs in three phases over the next two decades (see Table 2). The transition from an unimproved condition to the first phase of improvements would involve an incremental investment of about US\$30 per capita for improved areas. The next step would require an additional US\$40 per capita and a third increase of US\$60 per capita would enable a typically unimproved kampung to reach the minimum site and service standard, at a cumulative total investment cost of US\$130 per capita. The investments required under such a program and their relationship to other public investments are outlined in Table 1.

9. In 1973, nearly 80% of Jakarta's population lived in unimproved or marginally improved kampungs, which represented about one-half of the total densely urbanized area of the city (8,800 ha out of some 17,500 ha). Consistent with the emphasis on a low-cost, minimum-standard approach and on a constraining of investment in the modern sector, it was assumed that over the next two decades or more, the basic mix of kampung and minimum-standard areas in the total densely urbanized city area and the distribution of the population probably will not change substantially. Thus, the bulk of the projected population increase would be accommodated in new kampung and site and service areas. For the purposes of illustration, a realistic annual target of some 300 ha of new site and service areas (rising to 700 ha annually by the end of the 20-year period) has been postulated for execution. This would provide a mix by 1995 of one-third in the site and service areas and two-thirds in other kampungs. Such a mix seems possible from an implementation and financing standpoint.

10. The perspective long-term program is indicated in Table 3 which illustrates the basic feasibility of the phased approach to kampung improvement. By 1995, at least 50% of the present and future kampung area would be at the second level of development and the rest would have reached the site and service standard. Table 3 also indicates the five-year (Repelita II-Repelita VI) programs in both land area and possible investment cost.

11. The proposed project represents the beginning of a minimum-standard, low-cost program. During Repelita II (1974-78), the annual program of kampung improvement could average about 1,700 ha starting from a base of about 1,000 ha in 1974. The kampung improvements included in the proposed project will involve a total 1,980 ha over the first two years of Repelita II. As the IREDA base is strengthened, the DKI could be expected to devote increasing sums to the KIP and accelerate the program to reach the 1,700 ha level by the end of the plan period. The target would be to cover during Repelita II the bulk of existing kampungs in Jakarta with at least a first round of improvements. The site and service areas proposed in the project cover a total of 330 ha during a two-year execution phase. ^{1/} During the remainder of

^{1/} Final formulation of the project includes only 130 ha for site and service development. The perspective plan described in this Annex does not reflect this change.

Repelita II, an additional 1,000 ha of new areas could be developed, an execution level of about 300 ha a year. The proposed project would thus be the first two years of a long-term program based on the low-cost, minimum-standard approach.

12. Finally, the proposed minimum-standard approach would have important long-term employment effects. Employment generated by using this approach was estimated to be sufficient to absorb the increase in the labor force as well as cut down on the backlog of underemployed by greater use of the traditional sector, self-help, and urban works as part of the KIP and site and service schemes. In the site and service scheme, for example, it was estimated that some 60 person-years of employment in the construction industry would be generated, mostly in the modern sector, for each hectare developed, together with some 15 person-years for each hectare in the traditional building materials industry. In addition, 60 person-years of employment per hectare would be generated through the involvement of new households in the labor-intensive task of constructing their own houses, and of using other skilled and unskilled workers to help in that construction. Significant amounts of traditional employment through a wide base of small-scale family type activities, as well as through the development of more locally generated retail trade would also result in 16 person-years of employment per hectare. Estimates shown in Annex 9 indicate an additional 35 person-years of employment per hectare for these traditional activities. Annually the minimum standard programs could generate an addition of 10-20% to total city employment.

INDONESIA

JAKARTA URBAN DEVELOPMENT PROJECT

Illustrative Twenty-Year Perspective

Income, Investments, Financing for DKI Jakarta

		1975	1980	1985	1990	1995
Population <u>/1</u>	(million)	5.5	6.9	8.6	10.7	13.4
Annual Increase	(1,000)	250	320	400	490	620
Labor Force <u>/2</u>	(1,000)	1,650	2,070	2,580	3,210	4,020
Annual Increase	(1,000)	75	96	120	147	186
Regional Income <u>/3</u>	(million US\$)	850	1,240	1,800	2,600	3,770
Regional Income per capita	(US\$)	156	179	209	243	282
Gross Savings as % of Regional Income		12	16	18	20	22
Gross Savings	(million US\$)	102	200	325	520	830
Investments						
Minimum Standard <u>/4</u>	(million US\$)	25	37	50	74	107
Other Public Investments <u>/5</u>	(" ")	35	50	70	95	125
Total Public Investments	(" ")	60	87	120	169	232
Private Housing <u>/6</u>	(" ")	40	56	79	112	165
Industrial and Commercial <u>/7</u>	(" ")	75	111	161	229	335
Total Private Investments	(" ")	115	166	240	341	500
Total Investments	(" ")	175	253	360	510	732
Budget Revenue						
IREDA Tax						
Property Value <u>/8</u>	(" ")	4,500	7,500	12,400	20,900	34,400
Assessment Factor % <u>/9</u>		25	50	75	75	75
Collection Factor % <u>/9</u>		50	75	90	90	90
Tax Rate/Per Mil % <u>/9</u>		5	6	7.5	10.0	11.5
Annual Return Factor <u>/9</u>		5	6	8	8	8
Total Revenues from IREDA	(" ")	2	14	50	113	214
Other Taxes <u>/10</u>	(" ")	37	54	79	114	165
Total Taxes	(" ")	39	68	129	227	379
Budget Expenditures						
Routine <u>/11</u>		19	28	41	59	86
Capital		60	87	120	169	232
Total Budget Expenditures		79	115	161	228	318
Budget Deficit/Surplus		-40	-47	-32	+1	+61
Transfer from Central Government <u>/12</u>		15	15	15	-	-
Net Public Deficit/Surplus		-25	-32	-17	+1	+61
Investment/Savings Gap						
Investment		175	253	360	510	732
Savings		102	200	325	520	830
Investment/Savings Gap		-73	-53	-35	+10	+98
Foreign Aid <u>/13</u>		75	55	35	-	-

- /1 The average population growth 1961-1971 was 4.6% annually. DKI has estimated that the present growth rate is 5.8% even though the "closed city policy" has been in effect since 1970. This policy and GOI emphasis on a balanced regional development will presumably reduce the growth of Jakarta. As a basis for this illustration a continuation of the 4.6% trend is assumed.
- /2 The labor force is presently about 30% of the population and this ratio is assumed to continue.
- /3 The regional income per capita was US\$134 in 1971 and the average growth rate was 4%. (Source: Regional Income of DKI Jakarta, Census and Statistics Office, Jakarta, 1972.) This growth rate is assumed to exist until 1975. Beyond 1975, a growth rate of 5% a year is assumed.
- /4 Presently 34% of the population does not live in kampungs and this ratio is assumed to exist in the future. For the increase of this population site and service areas are assumed to be built. The cost for a site and service area is calculated at US\$120 per capita. A gradual improvement in three steps is assumed for all kampungs in order to reach site and service standards in year 2000. It is also assumed that 66% of the population will continue to live in kampungs. The population densities in the kampungs are assumed to decrease 1.5% a year. (In most cities the densities seem to decrease at about half the rate of the increase of per capita income. The consultants have estimated that the average density will decrease 1.0-2.9% per year, but their estimate is based on figures from a period of 4% growth of per capita income, which gives an income elasticity in the interval 0.25-0.71.)
- /5 Other public investments are assumed to grow around 7.5% a year until 1980 then gradually taper down to around 5% a year by 1995. This assumption is justified by the need for major investments in water supply, drainage/sewerage, electricity distribution and transport that are being programmed to occur in the next decade.
- /6 Private housing investments are assumed to stay at about 5% of regional income, lower than past average levels, due to the impact of higher levels of site and services and KIP investments.
- /7 The estimate of commercial investments is based on assumed cost of US\$1,000 per person entering the labor force. 1970 investment in Jakarta was about US\$300 million.
- /8 The total property value in Jakarta is assumed to grow at the same rate as the regional income if no infrastructure investments are made. These investments tend to increase the land value 2-10 times. Since the IREDA tax for residential properties is based on land values it is assumed that the relative tax base for IREDA will double over the next 25 years.
- /9 The assessment ratio and the collection rate are assumed to increase over the next 10 years. The assumed increases are in line with the recommendations of the Holland-Oldman Tax Study.
- /10 Other taxes are assumed to grow at the same rate as the regional income.
- /11 The routine budget is assumed to grow at the same rate as the regional income.
- /12 Transfers from the central government are assumed to be kept on their present level of US\$10-15 million per year until DKI's budget deficit disappears.
- /13 Foreign aid disbursed for Jakarta in 1972 amounted to US\$110 million.

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JAKARTA URBAN DEVELOPMENT PROJECT

Illustrative Standards for Incremental

Kampung Improvement /1

	Level 0 Typical Unimproved Kampungs	Level I KIP for the 1980s	Level II KIP for the 1990s	Level III KIP for year 2000/2	Sites & Services Project Standards
Roads and Footpaths	Dirt roads and dirt footpaths.	90 m paved road/ha 121 m paved foot- path/ha	150 m paved road/ha 250 m paved foot- path/ha	150 m paved road/ha 450 m paved foot- path/ha (all lots with access to road or footpath)	123 m paved roads/ha 300 m paved footpaths/ha
Drainage	Large areas flooded	Primary drainage along roads and footpaths, only minor areas flooded.	Only infrequent flooding of minor areas.	Dry.	Dry.
Water	Old pipe systems exist in central kampungs; no public system in peripheral kampungs; no public water taps.	Rehabilitation of old pipe system and new loop system with one public tap per two ha.	80% of all lots with private connections; one public tap per two ha.	Private connections to the municipal system.	Private connections to the municipal system.
Sewerage	No public toilets; limited number of private septic tanks.	One public toilet and washing unit (WTK) per two ha; vacuum trucks.	Increased number of private septic tanks; beginning of a municipal sewerage system.	Private septic tanks or municipal sewerage system.	Private septic tanks.
Garbage	A limited number of public garbage boxes.	One public garbage box/ha; one hand truck for garbage per 6 ha; garbage trucks.	Improved public collection.	Improved public collection.	2.3 public garbage box/ha Collection from box by garbage truck.
Electricity	Overloaded, inadequate system in some kampungs, with few private connections; no street lighting; no electricity in many kampungs.	Not improved.	Street lights.	Private connections to all lots.	None. (Connections to all lots by year 2000.)
Approximate Cumulative Investment /3		US\$30	US\$70	US\$130	
Approximate Incremental Investment /3		US\$30	US\$40	US\$60	US\$90 (excluding land and housing).

/1 This illustrative table was prepared in August 1973 based on infrastructure cost estimates at that time. Since it was prepared as an indicative exercise, it has not been revised to reflect continuing price increases since that time.

/2 To obtain a level of service in KIP at year 2000 equivalent to that in Sites and Services more expensive infrastructure may be required, due to the unplanned nature of existing kampungs.

/3 Per capita (1973 prices).

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JAKARTA URBAN DEVELOPMENT PROJECT

Twenty-Year Perspective - Minimum-Standard Programs

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Jakarta total population (million)	5.5	6.9	8.6	10.7	13.4
Densely urbanized city area (ha)	18,000	25,000	33,000	43,600	50,000
Kampung area (ha)	9,340	11,390	13,960	17,180	22,600
Sites and services area (ha)	<u>560</u>	<u>2,210</u>	<u>4,245</u>	<u>6,820</u>	<u>10,000</u>
Total minimum-standard areas (ha)	9,900	13,600	18,200	24,000	32,600
Population in minimum-standard area (million)	3.8	4.7	6.1	7.9	10.6
<u>Minimum-Standard Areas (ha)</u>					
Kampung area at less than Level I Standards	2,440	-	-	-	-
At Level I Standards	6,900	9,690	5,790	-	-
At Level II Standards	-	1,700	8,100	16,460	12,400
At Level III Standards	-	-	-	720	10,200
Sites and Services area	560	2,210	4,240	6,820	10,000
<u>Annual Programs (ha)</u>					
KIP Level I	1,230	670	850	1,000	1,400
" " II	-	1,000	1,530	1,690	1,400
" " III	-	-	-	720	2,300
Sites and Services	300	400	520	620	690
<u>Five-Year Programs (ha)</u>	<u>1974-78</u>	<u>1979-83</u>	<u>1984-88</u>	<u>1989-93</u>	<u>1994-98</u>
KIP Level I	6,700	3,500	4,100	5,200	7,300
" " II	-	5,800	3,850	7,300	7,300
" " III	-	-	-	6,200	13,000
Sites and Services	1,400	2,000	2,600	3,100	3,450
<u>Five-Year Programs (US\$ million)</u>					
KIP Level I	81	37	41	52	73
" " II	-	81	120	95	95
" " III	-	-	-	120	255
Sites and Services	<u>45</u>	<u>65</u>	<u>65</u>	<u>100</u>	<u>110</u>
Total Investment Minimum-Standard Programs (US\$ million)	125	183	246	367	533

INDONESIAJAKARTA URBAN DEVELOPMENT PROJECTJakarta Real Estate Tax (IREDA) ^{1/}A. Evaluation of the Present Structure of IREDA

1. Adroit and ingenious tax management has kept Jakarta's revenues rising over the last five years at a rate rapid enough to prevent the city from falling behind in the services it provides. But from its tax structure, as currently designed and administered, a continuation of this kind of performance over the next five years is unlikely. To keep its services up to their present level, as a modest goal, or to raise enough revenue in addition to permit Jakarta to start to meet pressing needs that have been long deferred, the DKI must develop a major source of additional revenue.

2. For this purpose, an obvious choice would be a tax on real estate. Indeed, this tax is a major component of the revenue structure of many if not most large cities throughout the world. Jakarta already levies a tax on property, ^{2/} but currently, it represents a modest effort. IREDA accounted for about 4% of the DKI total receipts in FY71. In the usual case, however, the cities that have a property tax draw on it more heavily; characteristically receipts from this base range between one-fifth and one-half of total revenues.

3. There are several reasons for the prominent role of property taxation in municipal finance. Administratively real estate is a good base for local governments to tax because it cannot be hidden from the tax collector and it cannot be moved to another jurisdiction. Moreover, within reasonable limits, its value can be established objectively without the need to have recourse to taxpayer records that may or may not exist (or, if they exist, that may or may not be made available). Finally, land and improvements are a major component of wealth, which is highly concentrated in its distribution and whose value benefits from the growth of the economy and the Government's provision of infrastructure and current

^{1/} This Annex was excerpted from the Summary and Recommendations chapter of the Jakarta Real Estate Tax Study Final Report dated October 1972 by Professors D. Holland of Massachusetts Institute of Technology and O. Oldman of Harvard University. The Study was financed under the IDA Technical Assistance Credit for Indonesia.

^{2/} The designations "real estate" and "property" are used synonymously.

services. It would be hard to argue that real estate, whose value has been skyrocketing in Jakarta, cannot be called on to provide substantially more revenue for the City. Certainly the value of real property far exceeds the value of automobiles in the DKI. Yet, taxes on the latter come to 25% of Jakarta's revenues compared with 4% from real estate. A tax on property will serve to get at those who have avoided or evaded the personal income tax for investment in business property and luxury housing are major ways of holding wealth.

4. A two-year study of IREDA, however, indicates that it should not be used as the mechanism for raising several times the current amount of revenue, without major modification. IREDA requires improvements before it can be expected to play a major role in the DKI's fiscal structure.

5. From a sample of market values it appeared that the tax is now levied at a very low rate. The law stipulates that IREDA be levied at 5% of annual value, which is equivalent to 0.4% of capital value. At present, however, IREDA assessments come to about 0.1% of market value, on average. Moreover, only about half of each year's IREDA is collected. Further research showed that the structure of effective rates of IREDA on individual properties is characterized by a very wide dispersion. The law provides that all properties shall be taxed at one and the same rate. But, in fact, IREDA assessments constitute a widely varying percentage of individual properties. Less than one-third of the properties analyzed were subject to effective rates that diverged from the overall average by less than 30%. For more than two-fifths of the properties, the IREDA rate diverged by more than 50% from the average rate for all properties. Experience indicates that such a wide dispersion of effective rates constitutes a strong obstacle to raising more revenue from a given tax. Strong taxpayer resistance and undue distortions could be expected if the DKI sought, for example, to quadruple its IREDA receipts and thereby, on average, tax property at the rate now stipulated in the law. Too many taxpayers would feel they are paying too "high" a tax, and could point to a large number of taxpayers who would be paying too "low" a tax. In the face of such a wide variation in applicable rates tax administrators, understandably, will be reluctant to enforce for all properties a tax that is a heavy burden on some and a light one on others. The uneven collection of IREDA--collections average 50% of assessments, and this ratio varies with respect to sections of the City, the value of real estate, and the uses to which it is put--serves to constrain IREDA's revenue potential even more.

6. Very simply, IREDA which has already been improved considerably since its inception in 1967, still needs further major improvements before it can become a primary revenue source for Jakarta. The most important recommendation in this respect is that market value be made the basis for IREDA assessment, replacing the Index that has been used since the inception of the tax. This is not as revolutionary as it sounds; this recommendation seeks to achieve a more consistent structure of relative values as the basis for IREDA assessments. Market value, incidentally, is the predominant choice among cities that levy a tax on real estate. Relative market value is

what the Index was designed to provide, but which, clearly, it is not now achieving. Rephrasing this recommendation highlights its close correspondence to the initial objectives of IREDA. It is recommended that the Index values be made to accord more closely, ideally in 1 to 1 correspondence, with market values.

7. To this end, it is further suggested that a land value map be developed for the DKI and that a capability be built up for the appraisal of individual properties. Meeting these objectives will require new offices in both the DKI and Central IREDA. This follows because both levels of government are involved in IREDA and, because what works in Jakarta could be applied in other cities in Indonesia. The DKI needs a Valuations Operations Office to prepare the land value map, develop adjustment factors for specific plot characteristics, and build up a corps capable of appraising the value of individual properties. The Central Government needs a Valuations Research and Training Office to participate in the DKI's improved valuation effort, capture the lessons learned there from the transmission to other cities, and serve as a training and research resource for Jakarta and such other cities that would seek these services.

B. Revenue Potential of Improved IREDA

8. The program required to implement the above recommendations will, of course, require additional government outlays. But improving IREDA should have one of the highest benefit-cost ratios of any government program. The study of IREDA in Jakarta suggests that improvements in assessments and collections could be the basis for a very large increase in revenues from this tax. It is estimated that if assessments were improved to the point where they were effectively the 5% of annual value (0.4 of market value) called for in the law, IREDA liabilities (and revenues) would be about four times their present amount. Moreover, improving collections from their present rate of about half to substantially 100% of assessments would also lead to about a quadrupling of revenues from IREDA. Since IREDA collections were 500 million in 1971/72 (Table 1), the eight-fold increase (a factor of 4 for raising effective rates, and another factor of 4 for doubling collection percentage) would mean Rp 4 billion a year for the DKI from IREDA.

9. It is utopian, however, to expect perfection either as regards assessments or collections; 2 to 2.5 billion more a year from IREDA might be more realistic. But, of course, an effective rate of 0.4% is quite modest in the light of experience in other cities. Over the longer pull, an effective rate as high as 1% might be the target. If achieved, additional IREDA revenues would be on the order of Rp 5-6 billion annually. The cost to implement the improved program has been generously estimated assuming that as many as 100 high level civil servants, each receiving an annual salary of Rp 1 million, were required for the program when it stabilized. After the build-up period, traceable to the 100 million in costs would be at least 2 billion in additional revenue each year, possibly more.

10. There would be further benefits from the program. The inventory of the City's real estate and catalog of its prices that would be generated for Jakarta would be an invaluable tool in planning land use and development in the DKI. The Central Government income tax authorities would find the information on property values and ownership a great help in income tax administrators of the DKI's Baat Belasting and the Central Government's wealth tax. Finally, the lessons learned in Jakarta improving IREDA and raising additional revenue from it would be of benefit to a number of cities in Indonesia.

INDONESIAJAKARTA URBAN DEVELOPMENT PROJECTRealized Revenues of the DKI Government 1970/71 - 1972/73and Budgeted Revenues 1973/74

(Rp million)

	<u>1970/71</u>	<u>1971/72</u>	<u>1972/73</u>	<u>%</u>	<u>Budgeted 1973/74</u>
I. Subsidies and Revenue Sharing from Central Government					
1. Subsidies	2,062	2,654	3,371		6,000
2. Revenue share - fuel	428	403	544		380
3. Revenue share - export tax	311	554	387		350
	<u>2,801</u>	<u>3,611</u>	<u>4,302</u>	22.8	<u>6,730</u>
II. IREDA Property Tax	<u>134</u>	<u>500</u>	<u>724</u>	3.8	<u>750</u>
III. Local taxes					
Motor vehicle tax	1,013	1,565	2,342		2,000
Automobile transfer tax	1,809	1,849	2,435		1,650
Entertainment	499	619	1,003		1,000
Hotel, restaurant	212	388	621		830
Radio	76	39	75		50
Foreigner	-	52	383		200
Other	87	76	164		165
	<u>3,696</u>	<u>4,588</u>	<u>7,023</u>	37.2	<u>5,895</u>
IV. Fees, charges, retributions	<u>142</u>	<u>454</u>	<u>1,141</u>	6.1	<u>706</u>
V. Revenue from government owned enterprises	<u>28</u>	<u>57</u>	<u>128</u>	.7	<u>70</u>
VI. Special Revenues					
Lottery tax	584	463	425		500
Casino tax	1,613	1,882	2,586		2,250
	<u>2,197</u>	<u>2,345</u>	<u>3,011</u>	16.0	<u>2,750</u>
VII. Other DKI Revenues	<u>1,167</u>	<u>1,462</u>	<u>2,531</u>	13.4	<u>299</u>
Total Revenues	<u>10,165</u>	<u>13,017</u>	<u>18,860</u>	<u>100.0</u>	<u>17,535</u>

JAKARTA URBAN DEVELOPMENT PROJECT

Realized Expenditures of the DKI Government 1970/71 - 1972/73

and Budgeted Expenditures 1973/74

(Rp million)

	1970/71	71/72	72/73	% of Total	73/74 Budget
Routine Budget					
I. DKI Government Administration	1,288.5	1,805.8	2,534.1	19.2%	1,967.7
II. Government Offices					
Public Works	167.1	204.6	271.5		280.0
City Planning	-	-	124.5		120.0
Education	97.7	213.7	169.4		820.1
City Health	115.4	155.2	185.7		255.2
Social Affairs	32.8	42.4	59.1		71.4
Sanitation	139.9	193.9	247.3		709.0
Fire Prevention	55.8	71.1	98.4		168.0
Traffic	30.4	33.9	57.5		81.7
Cemeteries	20.9	26.0	35.3		40.4
Husbandry	12.9	13.8	17.4		19.5
Agriculture	8.5	11.9	16.1		18.2
Forestry	6.2	7.0	10.8		16.0
Fishery	3.9	6.0	8.5		9.6
Sea Fishery	7.7	11.9	14.6		14.0
Industry	7.3	10.2	15.6		21.0
Tax & Revenues	48.5	197.9	238.1		225.0
Housing	10.5	17.1	20.6		21.3
Auditing	13.8	17.1	22.6		24.5
Land Affairs	6.4	10.1	10.9		14.0
Cooperative	2.7	4.2	4.9		7.2
Cultural Affairs	7.4	10.7	11.0		13.0
Museum & History	12.2	21.4	19.0		25.0
Parks	-	20.4	91.0		100.0
Tourism	-	14.3	16.7		24.2
Sports	-	-	-		11.3
	808.0	1,314.8	1,766.5	13.4	3,109.6
III. Welfare and Civil Servants	1,217.1	1,838.3	1,648.6	12.5	1,484.7
IV. Other Expenditures	175.6	357.1	415.5	3.2	377.0
V. Emergency Funds	-	93.9	43.1	.3	61.1
Total Routine Budget	3,489.2	5,409.9	6,407.8	48.7	7,000.1
Development Budget					
Administration	661.7	714.5	495.0	3.8	1,355.5
Public Security Order	113.8	151.5	143.5	1.1	213.0
Public Health	1,732.6	2,046.7	1,582.5	12.0	2,275.5
Infrastructure	2,472.0	3,527.9	2,964.7	22.5	4,204.0
General Economy	91.7	117.7	219.5	1.7	337.0
Kampung Improvement	1,013.2 (10.6%)	1,254.3 (9.3%)	1,176.5	8.9	1,900.0 (10.8%)
Sports Festival	-	250.7	175.0	1.3	250.0
Total Development Budget	6,085.0	8,063.3	6,756.7	51.3	10,535.0
Total Budget	9,574.2	13,473.2	13,164.5	100.0	17,535.1

INDONESIAJAKARTA URBAN DEVELOPMENT PROJECTDesign Standards and Cost EstimatesPart IKampung Improvement Program

1. The design standards for the improvements in those kampungs which were upgraded in Repelita I varied from one kampung to another. This reflected the particular needs of a given residential area and the different level of infrastructural services in the city's kampungs. The actual work undertaken in the Repelita I program was determined by the city authorities after taking into account the particular demands of the inhabitants of each kampung.

2. Design standards for the Repelita II KIP are based on an evaluation of the Repelita I program. These standards have been reviewed by the mission and form the basis of the cost estimates. A comparison of the Repelita I and Repelita II standards appear in Table 1.

3. Cost estimates have been prepared by the KIP Project Unit in the DKI for the first year of the program where specific kampungs and work items have been identified. Estimates for the second year are based on first-year costs per hectare. For details on unit costs see Table 2.

Roads and Footpaths

4. Three different road designs will be used depending on the nature of the traffic to be carried:

<u>Right-of-Way</u>	<u>Paved Surface</u>	<u>Typical Base</u> ^{1/}	<u>Traffic</u>
6 m	4 m	20/20/5 ^{2/}	Heavy loads prohibited. Limited ROW available.
8 m	4 m	20/20/5	Heavy loads prohibited. Provision for future pavement widening.
10 m	6 m	15/15/10/5	Heavy loads permitted.

^{1/} Actual sub-base thickness will vary according to soil strengths.

^{2/} Sand/Broken Stone/Binder Course surface - all in cm.

The first two designs are based on the Telford system which is common practice in Indonesia and heavily loaded traffic will be prohibited. The third design for heavy loads will include a 40 cm base of sand and broken and graded stones. All roads will have a 1 m concrete drain on either side. These roads will open the kampungs to garbage trucks, fire engines, ambulances and small buses.

5. The footpaths will have a 3m right-of-way, a 1.5m wide 6 cm concrete pavement on a 10 cm sand layer and concrete drainways on both sides.

Drainage Canals

6. Flooding during the rainy season is a serious problem in most kampungs. Extensive drainage works are, therefore, an essential element of the improvement program. Secondary drainage is included in the road and foot-path design by providing drainways on both sides of all roads and paths. The cost for these drainways is included in the roadworks costs. These secondary drainways flow into open primary drains which will be constructed in each kampung. The primary drains in turn flow into the city's main drainage canals. 1/ About 42 km of primary open drains will be constructed during the first year.

Water Supply

7. Improvement in water service and toilet/washing facilities is a high priority among residents in both improved and unimproved kampungs. The city is badly in need of an improved network including a secondary distribution system to supply public toilet facilities and washing areas (MCKs) in the kampungs and to provide for regular water points which can be used for fire fighting. A detailed study of the first-year kampungs indicates that most of the kampungs can be connected with the city mains. However, six deep tube wells have been included in the cost estimates for those kampungs outside the reach of the city system.

8. The main lines will be laid along the improved roads from which there will be offtakes to public hydrants. Between each hydrant will be two stub lines leading from either side of the main line to the edge of the road where they will surface above the flood culverts beside the road. These stubs will provide service for those residents along the road who wish to have private connections to their houses. With the mains running along the road and visible connection points above the culverts, illegal connections, which presently absorb up to 40% of Jakarta's piped water, should be minimized.

9. The average consumption of water in Jakarta is estimated by PAM to be 80 l/capita/day; however, actual consumption in the southern kampungs of the city by those residents who have their own wells is about 45 l/capita/day. A recent survey in the northern areas of the city, where residents have

1/ The citywide drainage system, consisting of rivers and canals, was designed for a city of 600,000 and is consequently totally insufficient. The NEDECO consultant team has prepared a master plan for drainage and flood control that calls for an extensive system of canals and polders and substantial land fills. The kampung improvement program will be coordinated with the master system.

to buy water from vendors, shows that consumption drops as low as 7.3 l/capita/day for drinking and cooking water. Water for personal ablution and clothes washing comes either from wells or the canals. On the basis of these figures, 30 l/capita/day is proposed as the consumption from the public hydrants and MCKs and 50 l/capita/day from the individual connections. The piping system, however, will be designed with a potential capacity to meet a future demand of 60 l/capita/day.

Sewage and Garbage Disposal

10. Only 25% of the houses in the first-year kampungs have septic tanks. The balance, therefore, used rivers, canals or neighbor's facilities. Very few public washing and toilet facilities (MCKs) were provided in the Repelita I program.

11. MCKs ranked high among the needed improvements in the household survey. Based on these considerations, the project will provide 91 12-seat MCKs in the first year. An MCK consists of a covered toilet space with 12 seats, a space for washing clothes and separate washing spaces for men and women and a septic tank.

12. The effluent of the septic tank will be discharged by sewerage pipes to nearby main drainage canals. Although this is not an ideal solution, it is an improvement over the existing situation where the major part of the human waste goes directly to the canals.

13. At the moment, the Dinas Kebersihan DKI Jakarta (City Sanitation Department) has eight vacuum trucks with a capacity of 5 m³ each. In addition, there are seven trucks owned by private companies. This is, of course, inadequate to meet the demands of the city and many septic tanks, especially MCKs are consequently clogged and not functioning properly. To initiate a better sludge collection system, the project includes the purchase of two vacuum trucks with a capacity of 5 m³ for the first year. Operation and maintenance will be the responsibility of the City Sanitation Department. The residents will eventually be charged for these services.

14. The City Sanitation Department is responsible for the collection of garbage. It is supposed to be picked up from the streets or from collecting points in the kampungs by street sweepers employed by the Sanitation Department. With the help of baskets or wooden carts, it is brought to main collection points where it is transported by truck to dumping places in or near the city. Frequently, the garbage is used in the kampung itself for fill. The Sanitation Department₃ has some 200 trucks in operation, with an average loading capacity of 15 m³ per working day. The available capacity meets no more than about 65% of the total demand of the city. The remaining part is collected by private initiative (markets and industry) or is dumped in the canals where it contributes to the flooding problems and poses a further health hazard.

15. To alleviate this problem, the project will provide 36 concrete garbage boxes, each with a volume of 6 m³ during the first year. In order to transport the garbage to the boxes, about 250 carts, with a capacity of 2 m³, will be provided as a part of the project. In addition, 6 garbage trucks will be included to remove the contents from the boxes to the City's dumps.

Schools and Health Clinics

16. School attendance in Jakarta falls below established national standards of compulsory elementary education. Although the average elementary (grades 1 - 6) attendance level is about 68% of those children who are of an eligible age, the attendance level is only about 20% in the densely populated kampungs to be improved as part of the project.^{1/} Therefore, as expansion of KIP beyond the scope of physical works executed during Pelita I, the DKI plans to add a sufficient number of elementary school spaces so that by operating schools, as is the current practice, on the basis of double sessions it will be possible to accommodate twice the number of children presently attending elementary school. The municipal Department of Education plans to construct 49 schools, each measuring a total of 600 m² with 6 classrooms in those kampungs included in the first-year program. It is assumed that a similar number will be included in the second year. Each classroom will be designed for a capacity of about 44 children. The cost of acquiring the land will be borne by the Department of Education and has not been included in the cost estimate. The DKI development budget for education is about Rp 4 billion, of which Rp 3.3 billion will be utilized for elementary school construction. The proposed Education Department development budget for Pelita II is Rp 27 billion. The cost of additional teaching staff will be provided by the Department of Education.

17. The Jakarta Department of Health has a program to construct small health clinics, each measuring 150 m², in the 227 kelurahans (subdistricts) of the city. Large clinics measuring 500 m² have already been constructed in the city's 22 kecamatans (districts). In two years (1972-73), 51 small clinics were completed. The remainder of the program will be completed in a four-year period (1974-78) assuming 21 of the small clinics are included in the project kampungs improved during the first year which are not presently served by such clinics. In the second year of the project, health clinics will also be included for those kampungs which are not served by a kelurahan clinic. Each of the clinics will have a staff of eight persons, headed by a qualified physician. Family planning services will also be available at each clinic.

^{1/} In 1973, some Jakarta primary schools were operating on eight shifts per day with only 45 minutes of instruction for some students.

Part II

Sites and Services

18. The standards used in the design of the site and service program have been developed to provide a substantially higher service level than presently exists in the urban kampungs of Jakarta, while keeping costs low enough to enable low-income families to purchase lots. The number of lots and the proportion of roads and open spaces are shown in Table 3.

19. The cost estimates were prepared by PTB based on their experience on similar projects in Jakarta (see Table 4).

Land Cost and Compensation

20. The DKI Government has been urged for some time to acquire land for low-income housing development but has been slow to respond due to budgetary limitations. During this period land values have increased substantially. The Government has agreed that the purchasers of the 80 m² and 140 m² lots would not have to bear the increase in land costs from Rp 500/m² in April 1973 to Rp 693/m² in January 1974 which occurred due to administrative delays. Instead, incremental costs will be borne by the DKI as a partial subsidy.

Site Preparation

21. The need for clearing and leveling is small since the site at Klender is mostly under paddy. Other than some tree cutting, the site occupants will be expected to do their own individual lot grading where necessary.

Internal Infrastructure

22. Drainage. Topographic studies show that a primary drainage system is required. Further studies were undertaken to determine the amount of rainwater accumulation and to draw up a drainage plan. Based on these studies secondary drainage along roadworks and footpaths and a collector main drainage canal will be constructed. The cost of the secondary drainage is included in the costs of the roads and footpaths.

23. Roads and Footpaths. The main and secondary roads and footpaths have been designed on the following principles:

- (a) Developing a system of roads to restrict access to specific vehicles within the site areas;
- (b) Probable carrying loads, i.e. vehicles expected to use specific roads; and

- (c) Location of roads and footpaths so that all residents are within walking or becak distance of buses and bemos.

The three types of roadways have the following design features:

- (a) Main roads designed for heavy traffic such as buses and trucks. They have a 15 m right-of-way, a 5 m pavement (with traffic restricted to 4 m between curb stones) constructed according to the macadam system (for example - 15 cm base, 15 cm broken stone, 10 cm gravel and 5 cm asphalt penetration), grass shoulders of 4 m width and 1 m wide drainage gutters on both sides. The 4 m shoulders will permit later widening of the pavements without increasing the right-of-way.
- (b) Secondary roads designed to be used by small bemos, private cars and becaks. They have a 7 m right-of-way, a 3 m macadam pavement, 1.25 m shoulders and 0.75 m drainage gutters on both sides.
- (c) Footpaths have a 3 m right-of-way, 1.5 m wide and 6 cm thick concrete pavements and drainage gutters of 0.75 m on both sides. Access will be restricted to pedestrians, bicycles and becaks. Concrete pavement rather than bitumen will be used because it is more easily constructed and less costly to maintain.

24. Water Supply. Each lot will be connected to the municipal water system through the extension of existing mains to the sites. Various distribution systems have been studied in detail. The least cost system included one public water hydrant per 30 households, with an average walking distance of 40 m. However, the benefits of private water taps within each lot were considered by the Government and the mission to outweigh the incremental cost estimated to be about 3.5%.

25. The system is designed for a per capita consumption of 60 l per day, which is about 10 l more than the present consumption of low- and middle-income people in Jakarta. It is also more than the available consumption figures for comparable cities in South Asia. There will be sufficient pressure to provide each household with 300 l per day.

26. The city municipal water authority (PAM) will charge a flat monthly rate of Rp 200 instead of metering the water, which will reduce both investment and operating costs. Currently, most city water is metered and a minimum monthly charge of Rp 170 is made.

27. Sewage Collection, Treatment and Disposal. No central sewage treatment exists in Jakarta ^{1/}. The canal system acts as the open sewage collectors. The only treatment of sewage is by septic tank, relying on

^{1/} A study for a Jakarta Sewerage Master Plan, including preliminary engineering and feasibility studies, has been proposed as a possible UNDP project.

aerobic bacterial action, with final distribution through a sand filter and percolation in the ground. In the northern part of the city, the soil is so impervious and the water table so high that most of the effluent of the septic tank goes directly and untreated to the open drainage gutters and canals.

28. Septic tanks and seepage pits, each servicing four lots, will be provided. The soil is sufficiently permeable and the water table low enough to permit satisfactory seepage from the pits. The costs of the septic tanks and seepage pits have been included in the core house₃. To ensure proper maintenance of the tanks, one vacuum truck with a 5 m³ capacity will be provided.

29. Garbage Collection and Disposal. The collection and disposal of solid wastes will be achieved through the provision of wooden garbage carts and concrete 6 m³ boxes. The carts will be used to collect the garbage from the houses and deposit it in the boxes. There will be one box per 7,000 people and 3 carts per box. One garbage truck will be provided to collect refuse from the boxes and remove it.

30. Electricity and Telephone. These services are not provided for the following reasons:

- (a) Present power facilities are heavily overloaded with only 20% of the city receiving service;
- (b) Experience in Jakarta shows that the availability of electricity tends to increase land speculation; and
- (c) Telephone service is at present so expensive that only businesses and high-income people can afford it.

The National Electric Company (PLN) will eventually extend these services as capacity permits.

31. Community Facilities. An essential part of a site and service project is the provision of community facilities. There are three categories of community facilities:

- (a) Public facilities provided by the central or municipal government, such as schools, health clinics, police and fire station, post office and recreation areas. These facilities are provided as part of the project;
- (b) Public facilities provided by the local community, such as mosques and community centers; and
- (c) Commercial facilities, such as small shops and markets. While these facilities are provided by the owners, the cost of the land is included as a part of the project.

32. These community facilities are based on the existing RW, RT and Camat system of community organization discussed in Annex 9. The nature of the facilities, and the number of people served by each facility, are based on present planning standards in Jakarta.

33. Educational Facilities. It is the responsibility of the DKI to provide schools for primary education (7-12 years old) and the Central Government for secondary education (12-15 years old). The DKI educational system for primary or elementary schools now operates basically on a two-shift basis. The schools for the site and service area will operate on a two-shift basis; however, sufficient land is provided for nearly doubling the amount of schools as attendance levels increase. The funds that are provided in the project are based on providing spaces for 60% of the eligible school age children to attend based on 1972 Jakarta records that 68% of the school age elementary children were enrolled. Fifteen percent of the population of Jakarta is of elementary school age and 2.2% is of secondary school age; however, not all children attend school since the family has to provide a tuition fee and meet the cost of all books and materials. However, textbooks are now in production as part of IDA Credit 387-IND which will be distributed to all elementary schools free of charge. Presently, one ten-classroom primary school (630 m²) is built for 1,200 families. 1/ In order to provide appropriate area for playgrounds and open space, the schools in the project will be allocated 3,000 m² of land. A community of approximately 3,000-5,000 households forms the basis for a six-classroom secondary school. 2/ The design of the school and its facilities varies, depending on the discipline taught. The secondary schools would provide training for both students and adults related to nearby employment opportunities.

34. Health Facilities. The DKI is now making a major effort to expand the level of health services, including family planning, with the objective of providing one Primary Health Center for each Kelurahan (sub-district). At Klender two types of health facilities will be provided, the Small Health Clinic for out-patients and the Large Community Clinic with the more specialized services including in-patient facilities:

- (a) Small Health Clinic (Polyclinic). It is equivalent in size to the Small Kelurahan Primary Health Center. The purpose of this polyclinic is to provide diagnostic services and administer and dispense medications. The staffing of this facility would include: doctor, dentist, administrator, two assistants, nurse, mid-wife and laboratory worker. Not all of these staff members would be full-time and many would operate from this facility only one or two days per week. The space requirements for a Small Health Clinic is 200 m² building area and 300 m² lot area.

1/ This gives an average class size of 40-50 students on a two-shift basis.

2/ This gives an average class size of 30-35 students on a two-shift basis.

- (b) Large Community Clinic. One facility per site will provide more specialized care and take referral cases from the smaller polyclinics as well as emergency cases. It will have 25 beds for in-patients. Staff of this facility will also serve the smaller clinics on a part-time basis, but this large clinic shall serve as their main base. Staffing of this facility would include: doctor, dentist, dental assistant, two administrators, two chemist assistants, two nurses, two mid-wives, two PKEs, two laborers and a custodian. Other extension workers would also serve in this facility.

35. Recreation Area. The site plans have been prepared taking into account the need for open space for recreation. Each group of 184 lots forms a cluster around a common green space. The green space would have a badminton court and children's play area of approximately 200 m² (78 m² for badminton court and 120 m² for play area). Larger play areas for soccer and other sports would be combined with the secondary schools. Approximately every 1,160 lots would be served by a recreation space of about 3,000 m². The equipment for these areas will be provided by each neighborhood.

36. Community Organizational Services. Part of the success of a project with this population density is dependent upon providing community facilities that will reinforce the already established spirit of "gotong-royong" or community participation that exists in Indonesian cities and towns. This means providing facilities and space for community organizations and religious participation. The following facilities are planned.

- (a) Community centers for approximately 1,160 households will serve as a central gathering place for meetings and as a center for legal aid offices, job training center and day care center. It will be centrally located to help form a neighborhood cluster. The facility will be simple and it would be constructed and equipped by the community it serves and at their cost;
- (b) The RW's Office is an integral part of the community structure. His office is not provided by the Government and, therefore, his home acts as his office and constituents' meeting place;
- (c) Police posts will be scattered throughout the sites. They are built in a variety of ways, by "gotong-royong", by companies, by the DKI and by the police. An area of 30 m² in each cluster of approximately 200 lots is set aside for this function. The post building itself will be built once the community has taken form;
- (d) Mosques. 200 m² is provided for a small mosque for every 200 lots. These are the centers of community religious life. The mosques will be built by the Ministry of Religion with self-help from the community; and

- (e) Transportation Terminals. For every 1,200 lots there will be a parking space for becaks which provide the main mode of transport within the site. A central bus terminal for each site will be located in the center of the site near the major market and other community activities. This terminal will serve oplets and regular buses that run to the city's employment centers.

37. Municipal Services. The city government provides facilities for safety, security and communication. A combined fire station, police office and post office is included at each site. The central post office for the area would be located in the municipal services complex. These facilities will serve a larger population than the site occupants, due to the shortage of existing facilities of this type in the vicinity.

38. Commercial and Industrial Space. There are basically three types of commercial and industrial areas included;

- (a) Small shops and craft manufacturing that is done in the home provide additional income to low-income families. No site area is set aside for these small shops;
- (b) Shops and manufacturing within a small neighborhood cluster. About ten shops will be provided for a population of 1,000 people. These shops average approximately 25 m² or 250 m² per 1,000 persons. The land for these shops would be sold or rented by the land development organization and revenues would be reinvested in the site in the form of site improvements and maintenance; and
- (c) Markets (pasars) will be provided for a population of approximately 5,000 households. The area of these markets are designed on the basis of approximately 114 m² per 1,000 persons served. In addition to these large markets, small neighborhood markets will serve the areas near the neighborhood stores. It is anticipated that a large number of shops will be oriented towards building materials and supplies to service those who will be constructing their own houses. Other shops will provide daily necessities and staples and small manufacturing will generally reflect that of the surrounding large employment centers and those industries which are home-craft oriented.

External Infrastructure

39. Drainage. The site drainage plan is based on studies prepared by the Dutch consulting firm of NEDECO, supplemented by the Basan Laboratory at Bandung. Drainage works will be required because the capacity of the Cakung and Buanan Rivers is restricted where they pass under the Bekasi railroad line. The drainage plan includes a new culvert for the Cakung River, where it flows under the railroad and the extension of the Buanan railroad bridge.

Access Roads

40. The main road from the market area to the road leading to Duren Sawit and project site (2.6 km) will be widened by 2 m to accommodate increased bus, oplet and the bemo traffic. An access road to the site (1.5 km) and a bridge over the Cakung River will be constructed as part of the project. Presently, a dirt road leads to the site across a low sawah (rice) field and crossing over the Cakung River. The road will have a 10 m right-of-way and a 5 m asphalted surface. The existing bridgeworks at the Cakung River will be strengthened.

41. Water Supply. A main to the Pulo Gadung Industrial Estate, close to the Klender site, is under construction and this will be extended to the site. The expected consumption at Klender is 31 l/s. This can be met by the existing treatment plants which, by the beginning of 1974, will have a capacity of 5,300 l/s.

42. Railroad Station. A new station on the Jakarta-Bekasi line will be constructed for the Klender site. The station will also serve the workers at the Pulo Gadung Phase II site, and will be located 3 km from both the Klender and the Jatinegara stations.

Housing

43. Core House. It is expected that all 80 m² and 140 m² lots would be sold with a 20 m² core shelter already constructed. This shelter would consist of a compacted lime-soil floor; supporting stanchions and a tile roof; bamboo matting walls; a sanitary unit; and a septic tank. Two core houses would share a common roof. This design follows the traditional method of house construction in Jakarta. After occupying the core, a family would erect partition walls and start adding on to the core in terms of their own needs for accommodation. The 200 m² lots would not include a core house since the purchasers of these lots would have higher incomes than the target population and could therefore finance construction of their own houses.

44. The rationale for providing this simple core house instead of letting a family begin from scratch is as follows:

- (a) Core housing initiates an order to the building pattern and helps to define site development. This will substantially reduce the risk for a haphazard and squatterlike development;
- (b) It also builds into the lots an almost self-imposed series of building regulations, especially regarding health and fire;
- (c) The core shelter provides for an immediate occupancy of the lot, which is important since families without their own dwellings have priority in the selection process;

- (d) This easy and rapid occupancy also reduces the risk for land speculation;
- (e) The large number of core houses will provide economies of scale in construction and purchase of materials resulting in lower costs than if site occupants were to build the shelter themselves;
- (f) The additional cost of the core house will be within the means of the lower-income levels of the target population.

45. The sanitary unit consists of a cement floor with water tap, water closet and septic tank with gravel pit. The size of the septic tank is 4.5 m^3 and the gravel pit 2.5 m^3 . The core house would be located at the back of the lot since this permits a better fall for the sewerage pipe to the septic tank. This location also is suitable for later extension of the core.

46. The estimated cost (at June 1974 prices) of a 20 m^2 core house is as follows:

Foundation and Floor	Rp 15,500	
Roof and Columns	62,875	
Bamboo matting walls	14,745	
Sanitary Unit	14,950	
Septic Tank	23,500	
Total Construction Cost (including a 30% labor component)	Rp 131,620	(US\$317)
Contingencies	52,507	(US\$127)
Interest during Construction	21,995	(US\$ 53)
Selling Price ^{/1}	Rp 206,122	(US\$497)

/1 Calculation of sales prices is described in Annex 6.

47. Demonstration Housing. A demonstration group of low-income houses will be constructed on each site. These demonstration houses will provide an example of the kind of house that occupants may build themselves as an extension of the core.

Part III

Sites and Services Land Use

48. The design standards described in Part II were developed to provide a higher standard than presently exists in the urban kampungs of Jakarta, while keeping costs low enough to enable low-income families to acquire the lots.

49. Overall Site Layout. The private lots and the community facilities are clustered on a neighborhood basis following the Jakarta RW, RT and Camat system of community organization. The purpose of these groupings is to reinforce community participation while providing a simple, logical location pattern.

50. The basic neighborhood unit is the block, normally consisting of 30-40 lots and corresponding to the RT level of community organization. Twelve to sixteen of these blocks are grouped around an open space at which the neighborhood markets are located. Consequently, no household is further from open areas, with, for example, badminton courts, and markets than 100-150 m. These main blocks are surrounded by secondary or primary roads, while all internal movement is by foot, bicycle or becak on footpaths.

51. Clusters of several neighborhoods or 1,000-2,000 families, form a primary school district. This means that a child has no more than about 300 m to travel to school and passes a vehicular road no more than once. The structure of the site is reinforced by the hierarchical nature of the transportation network. This is designed to provide all-weather access to all lots while restricting the use of automobiles in the residential areas. The secondary roads give access from the main roads to the main blocks, within which all vehicular traffic is prohibited. This hierarchical layout not only gives large areas that are protected from automobile traffic but also minimizes the area that is needed for the communication network.

52. One of the objectives for the site layout has been to maximize the effective land use while providing a good access to public facilities, open space and public transport. These considerations have resulted in the following land use 1/ distribution:

1/ This can be compared with the land utilization in other site and service projects that have been approved by the Bank or are under consideration:

Project	% <u>Residential</u>	% <u>Public</u>	% <u>Community</u>
Jakarta	64	18	18
Nicaragua	55	25	20
Senegal	61	15	24
Jamaica	60	20	20
Botswana	66	14	20
Zambia	50	15	35

Residential	62%
Commercial	3%
Community facilities and open space	17%
Roads and footpaths	18%

53. Lot Sites and Lot Distribution. Most Indonesian settlements consist of socially balanced communities. In order to achieve this type of integrated community in the site and service program, a variety of lot sizes will be provided. In addition to the general benefits from social integration, this will provide work opportunities for lower-income residents serving upper income groups, and an opportunity to provide a subsidy for lower-income groups by charging higher prices for the larger lots. There are also clear indications from the urban kampungs in Jakarta that the higher-income groups set a standard of construction that induces the low-income groups to improve their houses and prevent a slum-like development.

54. The most important lot size is the smallest, since this is intended for the target group of low-income families. Not only will the cost of land increase if the lot size increases, but also the cost of infrastructure per lot would be higher for a larger lot. Consequently, the aim is to minimize the cost of the lot while at the same time guaranteeing that the lot will be efficiently used and provide room for an adequate house. A study by the consultants who prepared the initial feasibility study indicated that this minimum size was 6 m (width) and 13 m (depth) or roughly 80 m². This lot can be afforded by the target group and is larger than the lots that low-income groups have in the urban kampungs. It provides enough space for a 55-60 m² house, which is roughly the size that large (7-8 persons) middle-income families presently have in Jakarta. If the lot were made wider, the cost for urban infrastructure such as footpaths and watermains, would increase. A narrower lot would not, on the other hand, permit a reasonable house layout.

55. Based on calculations of costs for different lot sizes and comparisons with the urban kampungs, the following distribution of lot sizes was determined (see Table 3):

80 m ² lots	70% of all lots	56% of the residential area
140 m ² lots	24% of all lots	33% of the residential area
200 m ² lots	6% of all lots	11% of the residential area.

This gives an average lot size of 104 m² which is roughly 15% higher than the average size in the urban kampungs.

INDONESIA

JAKARTA URBAN DEVELOPMENT PROJECT

KAMPUNG IMPROVEMENT DESIGN STANDARDS

	<u>Conditions Before Improvements</u>	<u>Improvements Under Pelita I Program (5 years) 2400 ha</u>	<u>Improvements Planned in First Year of KIP Project 950 ha</u>
<u>Roads and Footpaths</u>	Dirt roads and dirt footpaths.	94 m/ha of paved roads 101 m/ha of paved footpaths.	75 m/ha of paved roads 132 m/ha of paved footpaths.
<u>Drainage</u>	Non-existent. 90% of lots flooded.	Secondary drainage along roads and footpaths.	Secondary drainage along roads and footpaths.
<u>Water</u>	An old pipe system existed; connected with city main. No public watertaps.	Old pipes re- habilitated. 36 public watertaps.	Connection to city main supply and tubewells. 244 public watertaps.
<u>Sewerage</u>	No public toilets.	75 public toilets and washing facilities (MCKs).	91 public toilets and washing facilities (MCKs). 2 vacuum trucks.
<u>Garbage</u>	A few public garbage boxes existed.	Provision of 447 garbage boxes (capacity 2m ³).	Provision of 36 garbage boxes (capacity 6 m ³). 125 carts for garbage collection. 6 garbage trucks.

INDONESIA
JAKARTA URBAN DEVELOPMENT PROGRAM

Cost Estimates: Kampung Improvement Program
(June 1974 Prices)

First Year 1974-1975 955 ha
Second Year 1975-1976 1,025 ha
Total 1,980 ha

FIRST YEAR PROGRAM

	<u>Quantity and Unit</u>	<u>Unit Price Rp</u>	<u>Total Rp '000</u>
A. <u>LAND SURVEY</u>	955 ha	-	22,538
B. <u>ROADS, PATHS AND BRIDGES</u>			
Vehicular Roads			
1-4-1	45,546 m	29,025	1,321,973
1-1-4-1-1	19,194 m	31,313	601,012
1-1-6-1-1	6,901 m	43,463	299,935
Footpaths	125,779 m	8,950	1,125,722
Road Bridges	36	6,834,025	246,054
Foot Bridges	50	1,189,063	59,453
Sub-total			3,654,149
C. <u>DRAINAGE CANALS</u>	41,930 m	15,950	668,784
D. <u>WATER SUPPLY</u>			
Connections	4,860 m	18,750	91,125
Hydrants	244	657,000	160,308
Deepwells	9	9,375,000	84,375
Sub-total			335,808
E. <u>SEWAGE AND GARBAGE</u>			
MCKs	91	2,411,175	219,417
Garbage Carts	125	130,075	16,259
Garbage Boxes	36	60,650	2,183
Sub-total			237,859
F. <u>SCHOOLS AND HEALTH CLINICS</u>			
Elementary Schools	49	22,011,250	1,078,551
Small Health Clinics	21	8,662,500	181,913
Sub-total			1,260,464
G. <u>VEHICLES</u>			
Vacuum Trucks	2	5,000,000	10,000
Garbage Trucks	6	6,250,000	37,500
Sub-total			47,500
Total (Base cost per hectare Rp 6,520,520)			6,227,101
Price Contingency /1			465,845
Grand Total for First Year Program			6,692,946

SECOND YEAR PROGRAM

1,025 ha at Rp 6,520,520/ha	6,683,533
Price Contingency /1	1,609,310
Grand Total for Second Year Program	8,292,843
<u>GRAND TOTAL FOR 2-YEAR PROGRAM</u>	<u>14,985,789</u>

/1 For the second half of calendar year 1974, price contingencies are estimated at 7.5% for civil works and 5% for vehicles. For subsequent periods it is estimated at 15% per year for civil works and 10% for vehicles.

INDONESIA
JAKARTA URBAN DEVELOPMENT PROJECT
Site and Service Land Use

	Amount	Percentage
<u>Total Site Area</u> (in hectares)	<u>130.0</u>	<u>100</u>
Residential	80.1	62
Roads and Footpaths	23.4	18
Commercial	3.9	3
Community Facilities and Open Spaces	22.6	17
<u>Total Number of Residential Lots</u>	<u>7,930</u>	<u>100</u>
80 m ²	5,590	70
140 m ²	1,900	24
200 m ²	440	6
<u>Total Residential Area</u> (in hectares)	<u>80.1</u>	<u>100</u>
80 m ²	44.7	56
140 m ²	26.6	33
200 m ²	8.8	11

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JAKARTA URBAN DEVELOPMENT PROJECT

Cost Estimates: Klender - 130 ha
(June 1974 Prices)

	<u>Quantity and Unit</u>	<u>Unit Price Rp</u>	<u>Total Rp '000</u>
A. <u>LAND</u>			
Land	1,300,000 m ²	950	1,235,000
B. <u>SITE PREPARATION</u>			
Topographical	130 ha	25,000	3,250
Clearing and Leveling	130 ha	150,000	19,500
Staking Out	130 ha	100,000	13,000
Sub-total			35,750
C. <u>INTERNAL INFRASTRUCTURE</u>			
Main Drainage Canal	11,800 m ³	398	4,691
Bridge in Main Road	1	11,590,000	11,590
Bridges in Secondary Road	3	6,240,000	18,720
Bridges in Footpaths	33.8	174,375	5,894
Main Roads	2,820 m	26,063	73,496
Secondary Roads	13,900 m	13,538	188,171
Footpaths	40,081 m	8,175	327,662
Water Distribution System			146,476
Garbage Boxes	5	55,375	276
Garbage Carts	14	118,750	1,663
Sub-total			778,641
D. <u>COMMUNITY FACILITIES</u>			
Elementary Schools	7	22,011,000	154,079
Secondary Schools	2	25,575,000	51,150
Community Centers	3	11,131,250	33,393
Small Health Clinics	6	8,662,500	51,975
Large Health Clinics	1	22,090,000	22,090
Fire Station/Police and Post Office	1	14,292,000	14,292
Sub-total			326,980
E. <u>EXTERNAL INFRASTRUCTURE</u>			
Culvert under Railroad	1	14,375,000	14,375
Widening Rail Bridge	1	11,500,000	11,500
Widening Access Road	2,600 m	9,674	25,151
Paving Access Road	1,500 m	26,298	39,446
Bridge over River	1	14,375,000	14,375
Railroad Station	1	1,250,000	1,250
Main Road	6,060 m	27,398	165,968
Water Main	3,000 m	7,500	22,500
Sub-total			294,565
F. <u>HOUSING</u>			
Core Houses	7,490	131,620	985,831
Demonstration Houses	10	550,000	5,500
Sub-total			991,331
G. <u>VEHICLES</u>			
Garbage Truck	1	5,000,000	5,000
Vacuum Truck	1	6,250,000	6,250
Fire Engine	1	10,000,000	10,000
Sub-total			21,250
<u>TOTAL BASE COSTS</u>			<u>3,683,517</u>

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JAKARTA URBAN DEVELOPMENT PROJECT

Klender Site and Services

Breakdown of Costs by Project Items

(Rp million)

	Base Cost ^{/1}	Physical Contingency	Price Contingency	Total	% of Project
Land	1,235.0	-	-	1,235.0	25.2
Site preparation	35.8	5.4	7.5	48.7	1.0
Internal infrastructure	778.6	116.8	243.8	1,139.2	23.2
External infrastructure	294.6	44.2	56.0	394.8	8.0
Community facilities:					
Secondary schools	51.2	5.1	15.2	71.5	1.5
Elementary schools, clinics, police and fire stations	242.4	24.2	72.0	338.6	6.9
Community center	33.4	3.3	10.0	46.7	0.9
Vehicles	21.3	2.1	3.6	27.0	0.6
Housing	<u>991.3</u>	<u>99.1</u>	<u>296.9</u>	<u>1,387.3</u>	<u>28.3</u>
Total	3,683.6	300.2	705.0	4,688.8	
Detailed Engineering and Supervision	<u>167.5</u>	<u>16.8</u>	<u>32.6</u>	<u>216.9</u>	<u>4.4</u>
Total	<u>3,851.1</u>	<u>317.0</u>	<u>737.6</u>	<u>4,905.7</u>	<u>100.0</u>

^{/1} June, 1974

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JAKARTA URBAN DEVELOPMENT PROJECT

Technical Assistance

A. National Urban Development Corporation

Project Execution

1. The National Urban Development Corporation (NUDC) which will be responsible for project implementation, plans to retain consultants to provide management, engineering and accounting services to assist it in executing the project.

2. The consultants shall assist the Project Implementation Units within the Central and DKI Governments in executing their responsibilities in the field of engineering, financing and accounting, management and organization and evaluation of the project. An important function of the consultants' services will be the training of counterpart staff. For this purpose, the consultants shall provide the following types of experts:

Person-Years of Services

(with approximate allocation between three project units)

	<u>NUDC</u>
(a) Management	1.5
(b) Engineering	4.0
(c) Accounting	2.5
(d) Monitoring	<u>2.0</u>
<u>Total Person-Years</u>	<u>10.0</u>

3. Management. The Consultants should have experience in working with Government Departments executing large development projects and be capable of advising on organizational arrangements, management systems and procedures to efficiently execute the proposed project.

4. Engineering Services. Consultants should be knowledgeable in all phases of civil (municipal) engineering, including sanitation (septic tank), roads and drainage and have experience in low-cost housing schemes in developing countries, preferably in Southeast Asia. They would be primarily responsible for assisting in the preparing of standard engineering procedures, including a critical path network, in contract procedures and in supervising

of the civil works to be constructed under both the Site and Service Program and the Kampung Improvement Program.

They would assist the project implementation units in NUDC, PTB and KIP to do the following:

- (a) supervise detailed engineering, including the development of the construction schedule;
- (b) review and evaluate prequalification procedures and construction tender documents (including roads and footpaths, water distribution, sewerage treatment, drainage, construction of core housing and community facilities);
- (c) evaluate bids and select contractors for each phase of the construction work;
- (d) supervise all construction work;
- (e) inspect completed work as certified by the contractor and issue a letter of work completion; and
- (f) prepare progress reports and monitor the project.

The senior engineer will be a member of the Tendering Committee, which approves each award of contract.

5. Accounting Services. Consultants should be CPAs experienced in the establishment of cost accounting systems to monitor and record expenditures made by KIP and PTB from a number of different financial sources, preferably in connection with similar publicly-sponsored projects in other developing countries. It would also be helpful if they had experience in the procedures used by the World Bank for record-keeping and preparing applications for reimbursement. The scope of work for accounting services would be:

- (a) assist the project implementation units in NUDC, PTB and KIP to establish an efficient record-keeping and monitoring system for costs, taking into account the several sources of project funds;
- (b) assist in establishing procedures for payment of contractor's bills and auditing of project accounts satisfactory to the World Bank; and
- (c) train Indonesian counterparts at both the provincial and national Government levels in these financial control procedures.

6. Evaluation and Monitoring. Consultants should have a degree in sociology, planning or economics and experience in evaluating low-cost housing projects or other projects designed to serve social needs, such as health projects, preferably in developing countries. Evaluation experts would be primarily responsible for establishing a system for evaluating both the Site and Service Program and the Kampung Improvement Program:

- (a) With regard to this site and service project, he would establish a system for monitoring the progress of the project including:
 - (i) type of housing that is completed in the project, including effectiveness of aid given by site office in self-help housing;
 - (ii) effectiveness of sanctions for default in payments and for not completing the house according to required standards;
 - (iii) rate of turnover of housing sites; and
 - (iv) site occupant opinion with regard to:
 - (1) physical design of the project and
 - (2) type of core housing provided.
- (b) With regard to future site and service projects, he would help to establish criteria for selecting and reviewing potential projects including:
 - (i) responsiveness and capability of the sponsoring agency;
 - (ii) target population to be reached;
 - (iii) access to employment centers;
 - (iv) adequacy of infrastructure provisions; and
 - (v) financial feasibility.
- (c) With regard to the Kampung Improvement Program, he would help to establish a system of evaluating the progress of the program including:
 - (i) opinion of site occupants regarding type of municipal infrastructure required;

- (ii) maintenance of project infrastructure;
- (iii) turnover of housing and increase in land values because of Kampung Improvement Program;
- (iv) optimum type of infrastructure to be provided for fixed amount of money with regard to both increase in land values and economic enterprises but also with regard to the preferences of site occupants; and
- (v) use of communal sanitary facilities, garbage boxes and garbage carts.

Management Assistance

7. Initiation of a major new institution such as the National Urban Development Corporation (NUDC) requires advisory expertise familiar with the urban problems involved and the role such a corporation could play in alleviating them. A long-term relationship might be established with similar institutions in Malaysia or Singapore where they would provide advisers in Jakarta as required and conduct a training program for Indonesian staff at local operational headquarters. Alternatively, a team of consultants could be retained to assist in designing the framework and operational procedures for NUDC. The project would provide about US\$720,000 for approximately 12 person-years of assistance in the fields of program planning, financing and engineering during a two-year period. During negotiations terms of reference will be discussed for the required services.

8. Management assistance is required immediately to help establish the operating procedures for the organization and begin the preparation of a project work program for Repelita II (1974-79) in major cities in the country. A financing plan needs to be prepared that will indicate the amounts and services of funds necessary to implement the work program, and a staff of engineers will need to be organized and trained for the work of preparing and evaluating specific project plans.

Site and Service Feasibility Studies

9. To assist NUDC in preparing site and service feasibility studies, funds would be provided under the proposed Bank loan for about eight person-years of consultant services estimated to cost US\$480,000. These services would be utilized over an intensive two-year period to evaluate priority locations in 8 cities for site and service development and prepare preliminary engineering and cost estimates for projects that would be suitable for Bank appraisal.

B. Jakarta Metropolitan Planning Board

10. Since the economic life of Jakarta is rapidly expanding beyond the city's present boundaries it is necessary to begin approaching the Jakarta conurbation as a cohesive unit and undertake the planning for economic and physical expansion on that basis. To this end, the project makes provision for 10 ~~person~~-years of technical assistance in a two-year period to participate in a high-priority review of current sector studies in order to develop a five-year investment program for the metropolitan area.

11. Although the provincial governors of Jakarta and West Java, and the Central Government have agreed to establish a Greater Jakarta Planning Board and agreed its functions and responsibilities in outline form, detailed terms of reference have yet to be developed. The priority of the Board is to review current sector proposals and make investment proposals to BAPPENAS and the provincial governments. During this review process consultants would endeavor to develop counterpart expertise capable of evaluating future sector studies and preparing terms of reference for the sector work required. In the course of conducting sector analyses the consultants would also undertake preparation of an economic and physical growth strategy for the metropolitan area. It is anticipated that at the end of a two-year period, the Board's technical staff would be sufficiently trained to initiate, coordinate, and review the planning and implementation of sector plans, and proposals for the expansion of physical infrastructure.

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JAKARTA URBAN DEVELOPMENT PROJECT

Financial Arrangements

A. Project Financing Plan

1. The project financing plan is formulated so as to strengthen two new national institutions, the National Mortgage Bank (NMB) and the National Urban Development Corporation (NUDC), established to carry out the housing and urban development program of Repelita II. The flow of funds is described below and presented in Table I.

- (a) Of total project costs amounting to an estimated US\$51.0 million equivalent, the proposed IBRD Loan would finance about US\$25.0 million or 49% of project costs for civil works construction, vehicles, and technical assistance.
- (b) The Borrower will be the GOI. The proceeds of the Loan will be substantially onlent through subsidiary loans to DKI and NUDC. However, Loan proceeds for technical assistance to NUDC for purposes of management development and future project preparation will be passed to NUDC as equity and loan proceeds for metropolitan planning assistance will be passed to Cipta Karya.
- (c) DKI will finance the KIP program, the purchase of the garbage and vacuum trucks for the KIP and Site and Service Program and schools, clinics, and fire-police stations at Klender site. To assist in the financing of about 50% of KIP civil works costs and 100% of the foreign costs for vehicles, the GOI plans to onlend the proceeds of the IBRD Loan at 8-1/2% interest per annum amortized over a 15-year period following a five-year grace period.
- (d) NUDC will finance the costs incurred for administration (2%) and development of the site and service area on the following basis: from its equity 25% of total expenditures and from a subsidiary loan 75% of such expenditures. The subsidiary loan will bear an interest of 12% per annum repayable upon receipt of the proceeds of the lot sales.

- (e) NMB will finance mortgage loans to purchasers of 80 m² and 140m² lots from its equity and a loan from the Borrower which will be at least equivalent to the amount withdrawn from the IBRD Loan account for NUDC expenditures plus an additional amount to cover the GOI share of project costs not financed from NMB's equity. The NMB loan would be extended on terms of between 8% and 9% annual interest to be repaid in accordance with the aggregate amortization schedules of the 15-year mortgage loans to lot purchasers.

B. Site and Service Financial Considerations

Allocation of Site and Service Costs

2. The capital costs allocated to and recoverable from site occupants include:

- (a) Acquisition costs for all land, including land for internal roads and footpaths, open space and community services such as schools, clinics, fire and police stations;
- (b) Costs of detailed engineering and supervision for the projects;
- (c) Site preparation costs;
- (d) Costs for internal infrastructure including water distribution, sewerage, roads, footpaths and internal drainage;
- (e) Costs for a community center;
- (f) Costs for the construction of the core housing units;
- (g) Costs for interest during construction; and
- (h) NUDC project administration fees.

These costs include all physical and price contingencies.

3. The following project components will not be charged to site occupants but will be borne by the provincial and central governments as is the normal practice in Indonesia:

- (a) Schools, health clinics, fire and police stations;
- (b) Garbage and vacuum trucks (DKI-Jakarta); and
- (c) External infrastructure including access roads to the site and water mains (GOI).

Determination of Lot Prices

4. The procedure used to determine the price of lots is illustrated in Table 2, and summarized below:

- (a) Calculation of total costs for land, internal infrastructure, site preparation, community center, engineering and supervision, interest during construction on NUDC subsidiary loan from GOI, and NUDC administration fees; including physical and price contingencies;
- (b) Allocation of the total costs in (a) to the usable residential and commercial area (84 ha) on an equal m^2 basis;
- (c) Calculation of the net revenue from the sale of 200 m^2 and commercial lots at estimated market value, 100 above fully allocated cost. At project completion, these lots would be sold at prevailing market rates;
- (d) Calculation of the differential prices obtained by applying the net revenues from the sale of commercial and 200 m^3 lots to offset the cost of the 80 m^2 lots. The 140 m^2 lots would be priced at development cost.

5. On this basis, the commercial and 200 m^2 lots would be sold at a price perhaps of 100% above fully allocated costs; the 140 m^2 lots would be sold at fully allocated cost; and the 80 m^2 lots would be sold for approximately 28% or \$495 instead of \$692.

6. Estimated sales prices for the 80 m^2 lot, with a core unit, is Rp 411,722 (US\$992). The basic mortgage scheme will provide for a 25% down payment and a 15-year mortgage at 12% annual interest. Under this scheme, monthly repayments for the 80 m^2 lot and core unit will thus be Rp 3,706 (US\$8.90). These prices will permit households with minimum monthly incomes of about Rp 18,500 (US\$45) and above, or roughly the 20th percentile and above on the income scale to purchase lots.

7. Variations to the basic mortgage scheme presented in Table 3 would permit lot sales to families with regular incomes as low as the 12th percentile. The first would allow for lower monthly payments in the early years, increasing by some 3% a year over the life of the mortgage; the

second would permit a lower (20% instead of 25%) down payment as well as lower monthly payments increasing at 3% a year; and the third would allow a 10% down payment with all other terms as in the first and second variations.

8. The estimated sales prices for the 140 m² lot and core unit is Rp 708,622 (US\$1,708). The same basic mortgage scheme and variations would be provided. This pricing would permit families having minimum monthly incomes between Rp 25,776 (US\$62) and Rp 31,888 (US\$77) to purchase the larger lots. Monthly repayments, depending on the selected options, would vary from Rp 5,155 (US\$12.40) to Rp 6,378 (US\$15.40).

9. The 200 m² lots will be sold on a cash-only basis at market value, which has been estimated at about 100% above development cost, or a price of Rp 1,435,600 (US\$3,460). Commercial lots will be sold at market value also, again estimated at about Rp 7,900 per m².

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JAKARTA URBAN DEVELOPMENT PROJECT

Project Financing Plan

Project Component	(Rp million)				(US\$ million)			
	Total Cost	Source of Funds			Total Cost	Source of Funds		
		DKI	GOI	Bank		DKI	GOI	Bank
A. Kampung Improvement - Survey and Civil Works	14,871.6	7,435.8 ^{/1}	-	7,435.8 ^{/1}	35.84	17.92	-	17.92
B. Sites and Services	1,235.0		1,235.0	-	2.98		2.98	
Land		-		-		-		-
Site Preparation, Civil Works, Design and Supervision, Community Facilities, Housing	3,643.7	338.6 ^{/2}	1,607.8 ^{/3}	1,697.3	8.78	.82	3.87	4.09
C. Vehicles	141.3	-	-	141.3	0.34	-	-	0.34
D. Technical Assistance	1,281.5	-	181.7	1,099.8	3.09	-	.44	2.65
	21,173.1	7,774.4	3,024.5	10,374.2	51.03	18.74	7.29	25.00

^{/1} 50% of total KIP costs (Rp 14,871.6 million)

^{/2} Total cost of elementary schools, clinics, fire and police stations.

^{/3} Includes Rp 466.3 million departmental budgetary allocations for secondary schools and external infrastructure.

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JAKARTA URBAN DEVELOPMENT PROJECT

Sites and Services - Calculation of Sale Prices for Lots at Klender

	Total (Rp) million	Cost per m ² Gross Area (130 ha) (Rp)	% of Total
1. Cost of Land and Infrastructure			
Land	1,235.0	950.0	41.0
Site Preparation and Internal Infrastructure	1,187.9	913.8	39.4
Community Center	46.7	35.9	1.5
Demonstration Houses	7.7	5.9	.3
Engineering and Supervision	216.9	166.8	7.2
Subtotal	2,694.2	2,072.4	
Interest during Construction	320.6	246.6	10.6
Total Development Cost	3,014.8	2,319.0	100.0
2. Site Development Cost apportioned to Net Commercial/Residential Area of 84 ha (cost/m ²)	Rp 3,589	US\$ 8.6	
3. Development Cost Per Lot			
80 m ² lots	287,100	691.8	
140 m ² lots	502,500	1,210.8	
200 m ² lots	717,800	1,729.6	
4. Development Costs: Commercial and 200 m ² lots	Rp million	US\$ million	
Commercial Area: 39,000 m ²			
Total Development Cost	139.97	.337	
Area of 200 m ² lots: 88,000 m ²			
Total Development Cost	315.83	.761	
Total	455.80	1.098	
5. Differential Pricing Effects			
Gross Revenue from Sale of 200 m ² and Commercial lots at Market Value /1	911.6	2.196	
Less: Full Development Costs	455.8	1.098	
Net Revenue	455.8	1.098	
	Rp	US\$	
Revenue Available per 80 m ² lot	81,500	196.4	
Net Sale Price 80 m ² lots	205,600	495.4	
6. Lot Sale Prices			
80 m ² (below Cost)	205,600	495.4	
140 m ² (at Cost)	502,500	1,210.8	
200 m ² (at Market Value) /1	1,435,600	3,459.3	
Commercial lots per m ² (at Market Value) /1	7,868	19.0	

/1 Market values are estimated at 100% above costs, but lots are to be sold at prevailing market prices.

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JAKARTA URBAN DEVELOPMENT PROGRAM

ANNEX 6
Page 7
Table 3

Financing Implications - Lot Purchasers at Klender
(Rp Million)

Selling Price	80 m ²		140 m ²	
	Rp	US\$	Rp	US\$
Lot <u>/1</u>	205,600	495	502,500	1,211
Core Unit <u>/2</u>	<u>206,122</u>	<u>497</u>	<u>206,122</u>	<u>497</u>
Total	411,722	992	708,622	1,708
A. <u>Basic Scheme</u> (25% Down Payment, 15-Year Mortgage, 12% Interest)				
Down Payment (25%)	<u>102,830</u>	<u>248</u>	<u>177,156</u>	<u>427</u>
Mortgage Amount	308,792	744	531,466	1,281
Monthly Payment (.012)	5,706	8.9	6,378	15.4
Monthly Household Income Required (at 20%)	18,528	45	31,888	77
Percentile Reached (in 1976)	20th		50th	
B. <u>Variation No. 1</u> (25% Down Payment, 15-Year Mortgage, 12% Interest, Monthly Repayments Increasing Annually at 3%)				
Down Payment	<u>102,930</u>	<u>248</u>	<u>177,156</u>	<u>427</u>
Mortgage Amount	308,792	744	531,466	1,281
Monthly Payment (First Year)	2,995	7.2	5,155	12.4
Monthly Household Income Required	14,976	36	25,776	62
Percentile Reached (in 1976)	12th		40th	
C. <u>Variation No. 2</u> (20% Down Payment, 15-Year Mortgage, 12% Interest, Monthly Repayments Increasing Annually at 3%)				
Down Payment	<u>82,344</u>	<u>198</u>	<u>141,724</u>	<u>342</u>
Mortgage Amount	329,378	794	566,898	1,366
Monthly Payment (First Year)	3,195	7.7	5,499	13.3
Monthly Household Income Required	15,975	38	27,495	66
Percentile Reached (in 1976)	15th		45th	
D. <u>Variation No. 3</u> (10% Down Payment, 15-Year Mortgage, 12% Interest, Monthly Repayments Increasing Annually at 3%)				
Down Payment	<u>41,172</u>	<u>99</u>	<u>70,862</u>	<u>171</u>
Mortgage Amount	370,550	893	637,760	1,537
Monthly Payment (First Year)	3,594	8.6	6,186	15
Monthly Household Income Required	17,972	43	30,931	75
Percentile Reached (in 1976)	20th		50th	

1/ From Table 2, Annex 6

2/ Base cost (Annex 4, Table 4) plus contingencies, plus interest during construction

INDONESIAJAKARTA URBAN DEVELOPMENT PROJECTDisbursement Schedule

<u>IBRD Fiscal Year and Quarter</u>	<u>Cumulative Disbursements at End of Quarter (US\$'000)</u>
<u>1974/75</u>	
Dec. 31, 1974	1,180
Mar. 31, 1975	3,730
June 30, 1975	7,410
<u>1975/76</u>	
Sep. 30, 1975	8,630
Dec. 31, 1975	10,740
Mar. 31, 1976	14,740
June 30, 1976	20,240
<u>1976/77</u>	
Sep. 30, 1976	22,190
Dec. 31, 1976	23,030
Mar. 31, 1977	23,810
June 30, 1977	24,560
<u>1977/78</u>	
Sep. 30, 1977	25,000

INDONESIAJAKARTA URBAN DEVELOPMENT PROJECTOrganization and Management

1. The Jakarta Urban Development Project aims to strengthen those branches of government now responsible for urban work and assist in the formation of appropriate new agencies to undertake long-term urban development. This Annex describes the current government administrative structure related to the project and the changes envisaged during Pelita II to facilitate national urban development. The GOI is establishing a National Urban Development Corporation (NUDC) and a National Mortgage Bank to handle a permanent program of site and service development and kampung improvement, as well as other housing and infrastructure programs. Although ultimate responsibility for national urban policies rests with the National Economic Planning Agency (BAPPENAS), it is Cipta Karya ^{1/} which prepares general urban policy recommendations with guidance from the National Housing Authority for BAPPENAS, and subsequently coordinates the implementation of BAPPENAS approved policies. Thus preparation of the proposed urban development project in Jakarta has been supervised by a special project unit in Cipta Karya which will be transferred to become the nucleus of the new corporation (see Chart No. 8683).

A. National LevelNational Housing Authority

2. Broad guidelines pursuant to establishing national housing policy originate with the National Housing Authority. This body, consisting largely of Cabinet Ministers, is chaired by the Minister for Economic, Monetary and Industrial Affairs, one of two super-Ministers who share supervisory responsibility over several ministries and report directly to the President. Members of the Authority include: the Vice-Chairman of BAPPENAS; the Minister of Public Works; the Minister of Finance; the Minister of the Interior; the Minister of Social Affairs; the Minister of Health; the Minister of Industries, Labor and Transmigration;

^{1/} Cipta Karya is the Directorate-General in the Ministry of Public Works and Electric Power responsible for housing, building, urban and regional planning, and sanitation, building and materials research.

and the Governor of the Bank of Indonesia. The Executive Secretary of the Authority is the Director-General of Cipta Karya, and the staff at Cipta Karya constitutes the Secretariat of the Authority.

Cipta Karya

3. Cipta Karya is the principal agency at the national level responsible for developing housing programs responsive to guidance from the National Housing Authority. Within the Directorate-General of Cipta Karya there are five divisions, each responsible for different aspects of housing and its related services. The divisions are: Housing; Building; Planning; Sanitation; and Building Materials Research. Cipta Karya assists provincial and municipal government agencies involved in public works infrastructure, housing programs, and regional planning by providing technical advice. Of approximately 2,900 persons employed by Cipta Karya, some 200 have university degrees in civil engineering or architecture. The present Director-General is a senior engineer who has successfully organized and executed several urban programs.

National Urban Development Corporation (NUDC)

4. To undertake the acquisition and development of urban land primarily to benefit middle and low-income families on a sound commercial basis, the Central Government has established a National Urban Development Corporation (NUDC). From time to time the NUDC may establish branch office operations in cities that do not have real estate development agencies capable of planning and executing projects. The NUDC has authority to buy land and hold title with the right of administration, right of building and right of use. This land will be developed for sale or rental as residential, commercial or industrial sites. In its early stages the NUDC will begin banking land in urban areas in anticipation of the continued rapid inflation of land costs. Some of this land will be utilized for further site and service projects in the course of Repelita II; other portions will be developed as middle-income residential sites and industrial estates.

5. As its charter indicates, the NUDC will be responsible for executing urban projects in the fields of housing and physical infrastructure consistent with Government policy directives. To fulfill its obligations, the NUDC will prepare project plans; organize project financing; execute or supervise the implementation of projects; and administer and regulate the sale or leasing of developed land and housing. The Corporation is structured as a financially autonomous agency empowered to borrow on the private market, as well as receive foreign investment capital in order to finance its projects. During Repelita II, GOI plans to provide Rp 24 billion (US\$60 million) for housing, most of which would be channeled through NUDC. The working capital would be increased with profits from project undertakings, loans and grants from domestic and foreign sources, and the sale of NUDC bonds. Sources of income to NUDC will be revenue from the administration, sale and/or rental of the land, housing, and infrastructure it develops. Net profits of the NUDC will be utilized largely to expand the general Corporation budget.

6. Because the NUDC is organized as a perum, administrative policy direction for the NUDC will come from the Minister of Public Works through the Directorate-General of Cipta Karya. On behalf of the Minister, a Board of Supervisors consisting of no less than three members will oversee NUDC operations; one of these supervisors is the Director-General of Cipta Karya, the other two have yet to be designated. The NUDC will be controlled by a Board of Directors headed by a Managing Director assisted by a Director for Planning and Engineering and a Director for Finance. Detailed staff functions and the NUDC scope of work will be developed with technical assistance provided to the Managing Director as part of the proposed Loan for the Jakarta Urban Development Project. The initial training program planned by Government for NUDC Directors and top staff members includes sessions with the Housing Development Board in Singapore; the State Architectural Office in Malaysia; and the Housing and Home-Site Corporation in Manila.

Project Unit (NUDC)

7. The Project Manager and staff within Cipta Karya who were responsible for preparing the Jakarta Urban Development Project will transfer to the NUDC where they will become a permanent part of that organization. The Project Unit staff of professional engineers, accountants and planners will continue to be expanded during Repelita II. The Project Manager, who reports to the NUDC Managing Director, will be responsible for coordinating and supervising all project activities and preparing periodic progress reports for the Bank as and when requested. To assist the Project Unit in its oversight responsibilities during project implementation, the Project Manager will retain a firm of consultants with engineering, management and accounting expertise (see Annex 5).

B. Provincial Level

8. The project will be executed in Jakarta where the local government (DKI) will be responsible for the civic administration of the site and service scheme at Klender and fully responsible for the Kampung Improvement Program (KIP). The Deputy-Governor for Development will have supervisory responsibility for the project, but operational responsibility will rest with the Manager of the KIP unit.

Kampung Improvement Organization

9. The KIP Program Manager will supervise the selection of kampungs for improvement, planning, contracting, accounting, evaluation and long-term development of the kampungs based on ultimate land use potential and a desired infrastructure standard. When conflicts arise between the agencies of government participating in the program, these will be resolved by the DKI Director for Coordination. Judging on the basis of past performance,

DKI appears capable of executing the expanded and accelerated program of improvements financed in this project and, with the consolidation of KIP activities into a single administrative unit, the program should become increasingly efficient and capable of expanding the work program according to available financial resources. Staff for the new KIP unit has been drawn from the various departments who participated in the past kampung program. Technical assistance for engineering and accounting expertise will be provided to the KIP office from the consultants attached to the NUDC Project Unit. Program accounts will be kept separately from other provincial accounts.

Present KIP Operational Procedures

10. A procedure acceptable to the Bank is already established for selecting the kampungs to be improved each year. Proposals for improving specific kampungs can be generated from the community level and proposed by the local Lurah or Camat (district officers) to the five mayors (Walikota) who pass them to the City Planning Board, or, the initiative can come directly from the City Planning Board. Individual kampungs are then evaluated and improvement programs initiated in the following sequence.

11. In September, the DKI Physical Planning section (Tatakota) makes a reconnaissance survey by means of air-photos and field visits to evaluate kampungs proposed by the Camats and to propose additional kampungs. Through October, Tatakota does detailed survey mapping of the potential kampungs. A preliminary selection of kampungs is made by the Planning Board and the Kampung Improvement Unit. Rough phasing site design and budgeting is done by Tatakota and DKI Public Works. This is sent in mid-November to the Project Committees in the selected kampungs. As a consensus of these committee meetings, each Camat makes a short list of improvement projects and submits it to the KIP Unit. At this stage, other departments would prepare a joint implementation schedule under the guidance of the Director for Coordination, for all the inputs, i.e., roads, bridges, canals, footpaths, water supply, sanitation, schools, clinics and health centers. The KIP office will also coordinate the project work of the Water Authority (PAM), Health Department (DKK) and Sanitation Department (Kebensihan) while the Public Works Department undertakes through contracts the construction of buildings for health centers, DKK staffs and operates them. PAM lets its own contracts for the installation and rehabilitation of pipelines. Meanwhile, Public Works develops detailed plans and costs for the proposed improvements. These are consultations with the Project Committees concerning road alignments and the number of buildings requiring removal. The Project Committees provide feedback to the KIP Unit concerning proposed changes in alignments due to technical factors or resistance from kampung residents. In February, the final proposals go to the Governor.

12. Public Works Department (DPU) invites bids from contractors in March. After the award of tenders, the work begins in July. During Repelita I, contracts were awarded covering a specific type of work, e.g.,

footpath and drainage construction or water distribution lines, etc. However, this practice caused problems of coordination among the contractors and physical works that did not synchronise. The procedure for Repelita II will be to have a single contractor responsible for executing all the works in a kampung wherever possible. After contracts are awarded, actual implementation takes almost one year. Local supervision is exercised by the Project Committees under the Camats. Engineering supervisors employed by the DPU check the contractors' bills for payment against work done. Bills are certified by the Camat and sent to the KIP Unit which monitors program expenditures. After authorization by the KIP Unit, the request for payment is passed on to the DKI Directorate of Finance which makes the actual payment. On a monthly basis these bills will be forwarded to the NUDC Project Unit for reimbursement under the proposed IBRD Loan.

Site and Service Program

13. At the direction of NUDC, the site and service scheme will be executed by DKI's Land Development Agency (PTB) established in 1969. This agency is a wholly-owned subsidiary of DKI that reports directly to the Governor. PTB carries out a wide range of real estate and property development for DKI on a non-profit basis and on its own account for commercial profit. At the end of December 1972, PTB had completed work on projects costing about US\$3.6 million and had work in progress valued at another US\$3.0 million. About 30% of PTB's work has been performed on a non-profit basis. For the purposes of this project, however, the Manager of PTB will report to the DKI Deputy-Governor for Development so that planning and implementation for KIP and the site and service program is closely integrated. PTB will develop the 130 ha site owned by NUDC by contracting with private engineering and construction companies. A competent project manager for PTB has been appointed and separate office quarters have been constructed and equipped for the Project Unit. DKI will conduct a training program to teach occupants construction techniques for expanding the core shelters.

14. NUDC will retain local engineering consultants to prepare detailed engineering for the Klender site. The award of construction contracts and the supervision of construction will be done by PTB under the supervision of NUDC, and its consultants on engineering and accounting procedures.

15. Site Offices. The site would have an office headed by a site officer reporting directly to the PTB Project Manager. He would represent the project management and serve as the contact with site occupants, community organizations and government functionaries on the site. Except for routine reporting of a technical nature, he would be kept informed of all decisions and actions of the various departments of the PTB Project Division. He would participate in occupant selection, formation of community organizations and local management of mortgage repayments. When project execution is complete, the full community responsibilities will be borne by local civic administrators.

16. Occupant Selection. The procedure for selecting families to purchase the lots will be fully determined by DKI, NMB and NUDC. The Deputy-Governor for Development will appoint a committee to review the applications in light of established criteria. NUDC will process the applications, arrange for the committee to make selections, and then handle all matters related to notifying selected families and processing their moves. The National Mortgage Bank will make the final selection of creditworthy purchasers from amongst prequalified applicants and subsequently collect the monthly mortgage payments.

17. The program will be advertised in Indonesian language newspapers and by local government officials in their communities. Each of the 227 Lurahs will have pamphlets explaining the program and the eligibility criteria plus a kit of applications. Each application will have included a list of requirements to which each family must agree before submitting the application, i.e., a promise to complete mortgage payments, a promise to take up residence at the lot within six months from the date of purchase, a promise to abide by established building regulations, and to cooperate in the development and maintenance of community facilities.

18. Eligibility will be determined first by household income, as verified by employer and RT. Selection will be restricted to families with monthly incomes at least five times greater than the monthly mortgage payments and for the 80m²/lots to families with regular monthly incomes that do not exceed 15 times the average monthly mortgage payments and for the 140 m² lots to families with regular monthly incomes not exceeding 10 times the average monthly mortgage payments. Within this very broad category priority will be given to families: (a) who resided within the site previously; (b) who were relocated by the KIP; and (c) who do not own a home. The Selection Committee will include the Director of Coordination, DKI, as chairman; and representatives from the NMB and NUDC. If the number of qualified applicants should exceed the number of available lots, selection would be determined according to the date of submission of a completed application. Each application would be secured by the down payment. If the application is rejected, the down payment would be returned by the NMB with interest. Applications would be accepted periodically and final decision made not more than two months after each submission deadline.

C. Community Level

19. The successful implementation and management of the project will depend to a large degree on the active involvement and cooperation of the occupants of the project sites and of the improved kampungs. The tradition of mutual self-help (Gotong-Royong) among the residents of a neighborhood has a long history in Indonesia. For instance, if one family in a village is building a house, all other families must help. While this custom has weakened in urban areas due to lack of strong ethnic or family ties, it has

been retained to some extent in the urban kampungs. Wherever possible, it would be encouraged as both a help to low-income families and as a stabilizing bond in a new community.

20. In Indonesia, the traditional (adat) community structure is allied with the governmental structure and, as such, is potentially the most effective means of executing and monitoring the project at a local level. Government administration in DKI has five mayoral districts; the city is divided into 27 Kecamatans, each headed by a Camat (district chief) and 227 Kelurahan, each headed by a Lurah (sub-district chief). Camats and Lurahs are appointed to their offices by the Governor. Each Kelurahan has between 50,000 and 45,000 people who are subdivided into two levels of community groups. An RW contains about 150 families and an RT, the smallest unit, averages about 30 families. Each RT and RW is headed by a man who lives in the group; he is not a civil servant, but works at some other occupation. The functions of the RT and RW, as representatives of their communities, are to organize cooperative community efforts to build local roads, footpaths and drainage, to organize garbage disposal and to organize festivities. As Government representatives, they are charged with registering incoming and outgoing residents and visitors, reporting to the Lurah on community activities and keeping peace in the area. The Lurah has a small staff to collect statistical information for the Government from the RWs and RTs in his area. He is involved with infrastructure, community services and Kampung Improvement Programs being built in his area.

Community Organization under the Site and Service Program

21. The present community organization would be extended to Klender and the community structure developed gradually following occupant selection. RTs and RWs would channel suggestions of occupants concerning the development of their site to the Lurah. RTs and RWs would be appointed from among the new occupants before they move to the site. The functions of the community organizations would be:

- (a) the maintenance of infrastructure and community facilities, particularly footpaths, garbage bins, mosques and playgrounds;
- (b) the expansion of core shelters by self-help techniques in coordination with the implementing agency;
- (c) the recommendation of priority of expenditures for the construction and maintenance of community facilities;
- (d) the explanation and enforcement of building and zoning regulations;
- (e) the organization of community activities, including the construction of community facilities requiring direct participation, i.e., mosques and playgrounds, etc; and

- (f) the expediting of mortgage repayments problems. Though not directly required for this, the community organizations would assist NMB in resolving any problems related to regular payment.

Community Organization under KIP

22. A major objective of the Kampung Improvement Program is to bring lower-income residents into the fabric of urban life, since the majority of residents migrated to Jakarta during the last decade. By providing environmental improvement that the residents consider beneficial, the DKI can involve people in the process of local government. The administrative network extends to the kampungs. Under the present program arrangement, committees at the kampung level are directly involved in planning, execution and maintenance under KIP.

The Kampung Committee

23. At present, there is an organization at the kampung level which organizes self-help labor and collects money for kampung maintenance work and distributes money to help residents displaced by KIP. The Kampung Committees are composed of the Lurah's staff, the Vice-Lurah, RWs and RTs, all of whom live in the kampungs. Their function is to establish the priorities for improvement reflecting the views of the kampung residents. They respond to official proposals concerning the balance of social and physical infrastructure, location of roads, footpaths, communal sanitary facilities, schools and health centers, alternatives on the removal and the relocation of households and collections and expenditures of compensation monies. Instructions to kampung residents on the use of the facilities and organization of maintenance would be a continuing element of their work. In cases where the KIP necessitates the removal of more than half a house, the Committee will see that the displaced families are relocated to one of the site and service projects at government expense.

INDONESIA

JAKARTA URBAN DEVELOPMENT PROJECT

Economic Justification ^{1/}

1. The Site and Service and Kampung Improvement Programs will have far reaching consequences for the Jakarta region. The project will not only substantially improve physical living conditions for a large part of the population, provide substantial employment opportunities, but also have a profound long-term influence upon the direction of economic development of the metropolitan area. The latter objective will be achieved through coordination of investments in industry, urban infrastructure and housing. It is also expected that basic labor productivity will be raised through improved health, access to job opportunities, training and education.
2. Many of the project benefits are not readily quantifiable. However, imputed rental values and increased land values reflect some of the socio-economic benefits, and in this Annex, rental and land values are used to obtain rough estimates of these benefits in order to calculate an internal economic rate of return.

A. Benefit Valuation

Land Values and Rents as Measures of Benefits

3. Most urban amenities and services incorporated in the project are either public or social goods for which a market pricing mechanism seldom gives a complete indication of the consumers' evaluation. Most of the benefits of the site and service and kampung improvement projects thus have to be evaluated by indirect methods.
4. The method used here is to assume that the benefits of improved urban infrastructure can be measured by the increased land values or rents. The reasoning behind this approach is the following: Assume that two properties have the same size and location, and the same type of building, but

^{1/} This Annex was written with prices estimated as of October 1973. Since that time, substantial price changes due to inflation have occurred. Cost tables in the main body of the text reflect the latest estimates, but because the economic analysis is based upon real rather than nominal prices, the results of this Annex could not be significantly affected by the inflation that has taken place.

one of them is served by a higher level of infrastructure than the other. The property with the highest quality will then be more attractive and, consequently, competition among households will increase the price for this property. In a free housing or land market, the price difference between the two properties will reach a level such that potential buyers/renters are indifferent between the two properties. Consequently, the price difference is equal to the willingness to pay for the higher standard of infrastructure.

5. The rental market in Jakarta is very thin; only about 10% of all households rent their houses on a monthly basis and another 20% on the basis of a two-year advance payment. In consequence, rental values have been derived from property sales values with data from the rental market used as a supplemental check.

Effect of Kampung Improvement Program on Property Values

6. The Kampung Improvement Program (1970-71) increased property values in the following manner:

	<u>1970</u>	<u>1972</u>	
Improved kampungs <u>1/</u>			
- along roads	1,000	3,625	Rp/m ²
- along footpaths	600	2,125	Rp/m ²
- with no direct access	300	850	Rp/m ²

7. During the same period, as a basis of comparison, property values in non-improved kampungs of similar locations increased in the following manner:

	<u>1970</u>	<u>1972</u>	
Non-improved kampungs <u>2/</u>			
- along roads	1,000	1,700	Rp/m ²
- along footpaths	660	1,120	Rp/m ²
- with no direct access	300	510	Rp/m ²

1/ Based on sales values registered by the Lurahs in eight kampungs.

2/ Mission estimates based on the IREDA Land Tax Study for Jakarta and discussions with Lurahs and real estate agents.

8. The increase in property values due to the Kampung Improvement Program is calculated as the difference between the two sets of values set out above and then brought up to date to October 1973, as follows:

	<u>1972</u>	<u>October 1973</u>	<u>1/</u>
- along roads	1,925	2,500	Rp/m ²
- along footpaths	1,005	1,310	Rp/m ²
- with no direct access	340	440	Rp/m ²

Calculation of Benefits for the KIP Project Component

9. The lots along roads cover approximately 32% of the kampung area, lots along footpaths 40% and lots with no direct access cover 28%. Using these percentages as weights, the average increase in property values for comparable locations is Rp 1,450/m². Experience in actual kampungs indicates a variation of from Rp 1,100-1,800/m².

10. The average size of a house in the improved kampungs is 52 m² and the average size of a lot is 87 m². The imputed increase (1970-72) in rental values is calculated at Rp 13.6/m² per month. A survey conducted by Planned Community Development (PCD) in 1973 showed an actual increase (1970-72) in rental value of only Rp 8/m² per month. Since most rental agreements are for relatively long-term, rental increases undoubtedly would normally lag behind land values. The two figures are not inconsistent.

11. The lots occupy between 70% and 85% of the land in the various kampungs. Based on the lower figure, the increased rental value per hectare of kampung area is calculated at Rp 910,000/year.

12. The Kampung Improvement Program as it has been modified for these projects, is more ambitious than the past KIP, with a larger percentage of improvements going into footpaths, water, drainage and sewerage. The PCD surveys of specific kampungs show that priority is attached to these improvements by kampung residents. The greater emphasis on access will in itself result in a nominal increase of 20% in land values above past improvements, so that an increase in rental values of Rp 1,090,000/year/ha of kampung area has been used in the calculation of benefits.

Calculation of Benefits for the Site and Service Component of the Project

13. The benefits from the site and service project can also be calculated from imputed rental values but the value of private housing investments must be included since a 20 m shelter on a highly-serviced lot is only

1/ Property values in the central parts of Jakarta have increased 30-50% in 1972-73. In order to bring the property values up-to-date (October 1973), 1972 figures have been increased 30%.

the starting point for the development. In the calculation, the rental value of a completed house is taken as a gross measure of benefits and the land value which represents an opportunity cost is added to construction costs.

14. The current rental value for a property with semi-permanent house and running water located in a well-developed site in the neighborhood is 130 Rp/m² per month.

15. There is also a small component of benefits arising out of a net increase in annual revenues to the water supply company.

B. Cost Estimates

Capital Costs

16. In both the KIP and site and service project components, infrastructure costs including construction costs plus contingencies, administration, detailed engineering and supervision -- minus taxes, shadow priced as described below have been included. For comparative purposes the construction cost of housing has been based on a 60 m² semi-permanent house estimated by the consultants to be Rp 420,000. The labor component is assumed to be 30% and half of the work is normally done by the owner and his family. 1/ Off-site infrastructure was allocated to the project on the basis of a "with" and "without project" estimate of the provision of such facilities.

Operating and Maintenance Costs

17. Basic operating and maintenance costs have been expressed as a percentage of capital costs. The figures assumed are as follows:

Kampung roads	4%	(of capital costs)
Site and service roads	3%	" " "
Footpaths	2%	" " "
Water mains, sewage mains	1-1/2%	" " "

18. For the KIP component, it is not correct to assess all operating and maintenance costs to the project, but just those that otherwise would not occur. Since no information is available on the maintenance costs in the non-improved kampungs, it is assumed that half of the costs for road and footpath maintenance is due to the improved standards.

1/ Mission estimates based on the PCD review of low-cost housing in Jakarta, survey review of kampung residents and discussions with Government officials.

19. The costs in para 17 have been separated into component items and each item has been adjusted to reflect differences between border prices and domestic prices. This gives a shadow price for maintenance work that is approximately 90% of the monetary cost.

Other Social Costs

20. PCD consultants estimated the cost for relocating people and compensating them for their lost property (either in cash or communal arrangements) to be 10-15% of the construction costs in the Kampung Improvement Program. As a basis for the economic evaluation, 13% has been assumed. The same percentage was assumed for the site and service component.

21. The disturbance to the kampung residents during the construction period is assumed to be equal to half a year's benefit from the KIP. No disturbance cost is assumed in the Site and Service Project.

C. Shadow Pricing

22. Open unemployment in Jakarta may not be high compared to many other large cities in developing countries. Under-employment on the other hand is substantial, which is indicated by the fact that roughly 20% of Jakarta's participating labor force is becak drivers. The income of a becak driver is less than two-thirds of the income of an unskilled worker.

23. The following shadow prices were used in the analysis:

- (a) The shadow wage rate for unskilled workers is estimated at 75% of the market wage rate;
- (b) Skilled labor working in the traditional and all labor in the modern sector is priced at market rates;
- (c) Imported goods are valued at their estimated c.i.f. prices converted at the shadow exchange rate, which is set at 1.05 times the official exchange rate;
- (d) Goods produced by the modern sector, e.g. cement, are valued at their current domestic prices;
- (e) Goods produced by the traditional sector, e.g. tiles, are shadow-priced at 85%-95% of their domestic prices in order to reflect the social benefits of increased production;
- (f) Land costs are valued at market resale prices as of the time of the analysis since market prices seem to adequately reflect opportunity costs;

- (g) Self-help is shadow priced at 25% of the wage rate for unskilled workers, since this labor is expected to occur at time periods when opportunity costs are lowest.

D. Summary of Calculations

24.	<u>The Kampung Improvement Program Component</u>	<u>Rp/ha</u>
	Construction cost	4,432,000
	Relocation cost	606,000
	Disturbance cost	545,000
	<u>Total investment cost</u>	<u>5,583,000</u>
	Annual benefits to the residents	1,090,000
	<u>less increased annual operating and maintenance costs</u>	<u>(70,000)</u>
	<u>Annual net benefits</u>	<u>1,020,000</u>

After allocating the investment cost over the implementation period and assuming a 17-year life for the improvements, the internal economic return (IER) for the KIP project component is 17%.

25. The Site and Service Project Component
(Including Completed House)

	<u>Klender</u> (Rp million)
Infrastructure cost	929.2
Land cost	550.0
House construction	<u>2,345.3</u>
<u>Total Investment costs</u>	<u>3,824.5</u>
Net rental value	655.8
Water company's surplus	4.0
Less maintenance costs	<u>(4.1)</u>
<u>Annual net benefits</u>	<u>655.7</u>

After allocating the investment costs over the implementation period, and assuming a 25-year life for the investments, the internal economic return (IER) of the site and service project component is 17%.

E. Sensitivity Analysis

Shadow Wage Rate

26. The rate of return for the subprojects under different assumptions about the shadow wage rate are as follows:

	<u>Shadow Wage Rate for Unskilled Labor</u>		
	<u>50%</u>	<u>75%</u>	<u>100%</u>
<u>Kampung Improvement Program</u>	18%	17%	16%
<u>Site and Service</u>	19%	17%	14%
<u>Total Project</u>	19%	17%	15%

Other Costs and Benefits

27. The sensitivity of the project rate of return to assumptions about cost variations and benefit variations is shown below:

Kampung Improvement Program

<u>Benefit Variations</u>	<u>Cost Variations</u>		
	<u>-10%</u>	<u>±0%</u>	<u>+10%</u>
+25%	25%	22%	20%
+ 0%	19%	17%	15%
-25%	14%	12%	10%

Site and Service Program

<u>Benefit Variations</u>	<u>Cost Variations</u>		
	<u>-10%</u>	<u>±0%</u>	<u>+10%</u>
+25%	22%	20%	18%
± 0%	18%	17%	14%
-25%	13%	12%	11%

28. Land for the Site and Service component is valued at its opportunity cost which is estimated from current resale values. Market distortions might mean that the money cost of land does not properly reflect the opportunity cost of land in Jakarta. If the opportunity cost is half or double the money cost, the internal economic rates vary as follows:

<u>Land Value</u> --(Rp/m ²)--	<u>IER</u>
250	18%
500	17%
1,000	15%

F. Summary of Economic Analysis

29. The economic analysis is based on the assumption that benefits to the site occupants are reflected in increased land values and imputed rental values. Many social benefits, for example, from increased productivity and improved health, may be only partly reflected in the land and rental values. This means that the calculated economic rate of return possibly understates the real return. When project inputs are shadow priced as described above, the economic rate of return is 17%. If no shadow pricing is employed the return is 16%. Both the KIP and Site and Service project components each have individual rates of return of 17%.

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JAKARTA URBAN DEVELOPMENT PROJECT

The Employment Situation in Indonesia and Jakarta

1. An analysis of the growth of the city compared with the national statistics on population, labor force and employment, reveal how dependent the country is on the creation of employment opportunities in Java. The labor force is expected to grow as follows:

	<u>1961</u>	<u>1971</u>	<u>1981</u>
Indonesia /a			
Total population	97.0	119.2	155.6
Population (Age 10-64)	61.4	77.5	103.2
Labor force (Age 10-64)	33.3	38.9	50.4
Labor force participation rate (%)	54	50	49
Annual increase of labor force (%)	----	1.6	-----2.6-----
Jakarta /b			
Total population	2.9	4.6	7.2
Population (Age 10-64)	2.0	3.1	4.9
Labor force (Age 10-64)	1.0	1.4	2.2
Labor force participation rate (%)	50	46	45
Annual increase of labor force (%)	----	3.6	-----4.4-----

/a Source: IBRD Report No. 25-IND, Development Issues for Indonesia.

/b Source: For 1961 and 1971, Biro Pusat Statistik;
For 1981, mission estimates.

2. Employment as well as unemployment statistics in Indonesia have serious shortcomings and as is the case in many other Asian countries, both employment and unemployment have large percentages of underemployed persons included in them. The official unemployment in Indonesia's urban areas is about 5% and the unemployment in Jakarta is doubtless higher. The large number of underemployed persons in Jakarta is clearly indicated by the fact that about 20% of the participating labor force are becak drivers. Consequently, there are reasons to assume that at least one-third of the labor force in Jakarta is un- or underemployed.

3. The figures relating to unemployment show an addition of one million workers per annum to the labor force and some seven to nine million new labor force entrants in the younger age groups during the Repelita II. However, the adaptability of the Indonesia worker and the prevalence of small individual enterprises will encourage a good deal of economic activities in the project, sites. The Site and Service program, coupled with the government programs will directly provide additional employment opportunities, and have a direct impact on the local employment situation.

A. Integration of the Site and Service Area
and Employment Opportunities

4. Easy access to places of work and the costs of transportation determine the choice of living area for the low-income people everywhere in Asia. For these reasons, modernized housing quarters located away from employment centers, even when subsidized have appealed little to the poor, resulting in failures of many site and service projects. The site under consideration has been carefully chosen from an inventory of 45 sites, with employment opportunities ranking fairly high among the criteria used.

5. The Klender site is located about 1 km from the Pulo Gadung Industrial Estate where the Indonesian Government, with World Bank financial support, is beginning a development that will provide about 15,000 jobs. In addition, there are traditional employment opportunities at Pasar Klender and good rail access at Klender Station. The PTB is constructing a 600 unit middle income housing project at Duren Sawit and a squatter resettlement project at Pondok Bambu. Besides this, housing for Navy and Air Force employees is planned for the area.

B. Direct Employment Effects of the Site and Service Program

6. The labor costs for construction including land preparation, installment of municipal services and the building of community center and public offices would amount to about 30% of the project cost. The non-standardization of production, non-mechanization, the habit of buying in small quantities and the lack of transportation network, will also contribute to the small scale manufacturing, crafts and retailing sectors.

7. Detailed estimates of employment effects of site and service projects in Jakarta were made based on the available information for a typical site, as shown below. Since the general situation remains the same for all sites, the data illustrates the employment creation expected at Klender.

Total Number of Jobs and Man-Years of Employment at Typical Site (180 ha.)

	<u>Jobs</u>	<u>Man-Years</u>
Construction - additional improvement, building materials, manufacturing	1,300	1,300
Household help	2,700	1,170
Community facilities	560	480
Markets, commercial opportunities, shops (two in number)	1,640	870
Small shopping areas (nine in number)	450	450
Banks, government offices, etc.	350	200
Home crafts, snack vending, money-lending and the like in and around residences	<u>8,000</u>	<u>2,000</u>
Total	<u>15,000</u>	<u>6,470</u>

Employment at Project Site (Klender)

<u>No. of Jobs</u>	<u>No. of Man-Years of Employment</u>
9,200	3,900

C. Employment Generated by the Kampung Improvement Program

8. The total employment generation by the Kampung Improvement Program will be 46,000 man-years, calculated as follows:

Direct employment:

	<u>No. of Jobs</u>
Roads and footpaths	10,280
Bridges	500
Drainage canals	2,730
Water supply	1,720
Sewage and garbage disposal	<u>2,180</u>
Subtotal	17,410
Administration /a	300
Detailed engineering /a	130
Supervision /a	260
Technical assistance /b	-
Inflation	<u>-</u>
TOTAL	<u>18,100</u>

/a White collar workers in these categories are assumed to make about four times as much as manual laborers.

/b Primarily foreign personnel.

Local Building Materials

9. There will also be indirect employment generated in the building materials industry amounting to approximately 27,600 jobs. Estimates of the labor component in local building materials have been made on "Survey of Large and Medium-Scale Manufacturing Industries", Central Bureau of Statistics, Jakarta, 1970, and mission visits to local building materials industries.

Labor Component in Local Building Materials

<u>Building material</u>	<u>Labor component</u>	<u>Shadow-price</u> ^{/a}
Brick	0.45	0.89
Tiles	0.45	0.89
Ceramic pipes	0.40	0.90
Concrete pipes	0.40	0.90
Bamboo mats	0.40	0.90
Lumber	0.35	0.91
Stone, sand, gravel	0.30	0.93
Asbestos products	0.25	1.00 ^{/b}
Cement	0.25	1.00 ^{/b}
Asphalt	0.20	1.00 ^{/b}
Metal pipes	0.20	1.00 ^{/b}
Plastic pipes	0.20	1.00 ^{/b}

/a If unskilled labor is shadow-priced at 75% of the wage rate.

/b Produced by the modern sector or imported.

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Employment Calculations - Typical Site (180 ha)

Community Employment	Number of positions	Person-Years of Employment
<u>I. Construction Manufacturing</u>		
Past construction work - redevelopment, changing roadways, additional improvement, etc.	1,000	1,000
Building materials, manufacturing bricks - lumber works, etc.	<u>300</u>	<u>300</u>
Sub-total	1,300	1,300
<u>II. Household Help</u>		
1/6th of the 80 m ² households (7,560 total) may employ part-time help for 2 hours/day	1,260	315
$\frac{1260 \times 2}{8}$		
1/3rd of 140 m ² households (2,700 total) employ 4 hours of help per day	900	450
$\frac{2700 \times 1/3 \times 4}{8}$		
1/2 of 200 m ² households (540 in number) employ full-time help	270	270
1/2 of 200 m ² households employ part-time help 4 hours/day	<u>270</u>	<u>135</u>
Sub-total	2,700	1,170

Employment Calculations - Typical Site (180 ha)

Community Employment	Number of facilities	Number of positions	Person-Years of Employment
III. Community facilities and Man Hours of Employment			
Badminton court	75	None	None
R.W. office and police posts	65	65 part-time jobs	20
Soccerfield	11	5 part-time employees	2
Elementary schools /1	11	231	231
Secondary schools /2	3	57	57
Community center and day care center	Will be manned by the community on a voluntary basis		
Kindergarten	15	15 part-time (3 hours/day)	6
Small health clinic /3	8	64 employees (full and part-time)	40
Large health clinic /4	1	16 full-time	16
Fire brigade, post office, police station	2	80 (full & part-time)	60
Mosques	25	25 priests (partly paid by government)	20
Garbage collection /5	27		25
Total		558	477

/1 15% of the total population in Jakarta is of elementary school going age. Applying the same criterion, out of 54,000 people, 8,100 will be the number that might constitute the population in elementary school; it is estimated that 11 schools will be there in the total site area. All 11 elementary schools will have 8,100 pupils. Each school will have 736 children. 40 pupils per class, there will be 18 classes in each school or 9 classes in two sessions. Hence, each elementary school will have at least 16 teachers - one head teacher, one administrator, an office clerk, a registrar or admissions clerk and one caretaker. There will be altogether at least 21 employees in each of these schools. Multiplied by the number of schools on the site - $11 \times 21 = 231$ man-years.

/2 Total population = 54,000. Approximately 2.2% of the population attend secondary school. Secondary school population = $\frac{54000 \times 2.2}{100} = 1,188$ students
There are three school sites. Each school will then contain 396 students. Each class will have 30 students = 13 classes. Could be in two shifts - 6 classroom schools. Staffing - each school will have 12 teachers - a head teacher, school administrator/registrar, clerk, two physical activities teachers or coordinators, two care takers = total 19. Three schools in the site then will require 3×19 persons = 57 man-years.

/3 Small health clinic facility would include:
1 doctor - part-time
1 dentist - part-time
1 administrator - part-time
2 assistants - 1 full-time, 1 part-time
1 nurse - full-time
1 mid-wife - full-time
1 labor worker - part-time - everyday 4 hours
Total 5 man-years
8 such clinics will generate 40 man-years of employment

/4 Large health clinic facility would include:
1 doctor
1 dentist
1 dental assistant
1 administrator
2 chemist assistants
2 nurses
2 midwives
2 P.K.E.
2 laborers
1 custodian
Total 16 - all full-time

/5 For 63 households - 1 garbage box. One truck per 2,000 persons. Total number of trucks $\frac{54000}{2000} = 27$ 27 truck drivers - also acting as workmen collecting garbage and emptying garbage boxes. There may be additional help employed from time to time. The 27 truck drivers might do the city rounds on stipulated days. Total number of estimated man-years of work - 25.

JAKARTA URBAN DEVELOPMENT PROJECT

Employment Calculations - Typical Site (180 ha)

Community Employment	Number of positions	Person-Years of Employment
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IV. Markets, Commercial Opportunities and Shops

It has been estimated on the basis of government data, that there will be a large market or pasar for every 5,000 households. There will be a small shopping area serving every 1,200 households

Total number of markets at Site	= 2 (estimated)
Total number of small shopping areas	= 9 "

Estimated Number of Employment at Market Places:

<u>1. Retail Stores</u>		
Cloth shop and cloth stands	80	40
General stores	30	15
Grocery stores	30	15
Vegetable and fruit stores (several part time, seasonal transient type jobs)	200	50
Other consumer goods	40	15
Hardware	30	15
Furniture stores and lumber yard	25	10
Meat, fish and poultry stores & stands	20	10
Live cattle, fowl selling	15	10
Sub-Total	470	180
<u>2. Service Type Shops</u>		
Barbers	20	15
Tailors	15	15
Cycle repairs	10	10
Leather goods - servicing	10	10
Other types of services	15	15
Sub-Total	70	65
<u>3. Restaurants & Food Stands</u>		
Full time restaurant type employment and part time selling of food	120	60
<u>4. Other Activities connected with Marketing</u>		
Oplet, Oxcart business	50	50
Carriers and peddlers	40	40
Odd jobs	60	40
Sub-Total	150	130
<u>Total /1</u>	<u>820</u>	<u>435</u>
Total number of job and man-years at the two markets	1,640	870

V. Small Shopping Areas

Total such areas in site = 9 (estimated). Each small shopping area may contain a neighborhood grocery store, covered departmental store, a barber shop, a neighborhood mill and the like. The mission has estimated 50 man-years of employment and 45 jobs at each of these areas.

<u>Total</u>	450	400
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Banks, government offices market entrance fee collectors, maintenance crew on the site will generate approximately 200 man-years and 350 jobs.

VI. Homecrafts, Snack Vending, Moneylending and Other Part-time Jobs

At least one or two members of most of the families in the 80m², 140m² sites will indulge in such part-time activities, thus generating a considerable number of man-years of work. Out of 8,000 households if one person has an occupation of four hours a day and did so only for half this number of days in a year, 2,000 man-years of job (low income jobs) will be there.

<u>Total number of man-years may amount to</u>	= 18,000	2,000
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/1 A typical market contains as many as 400 Bakuls and 200 Artisans.

Hence our numbers for jobs (820), man-years (435) seem fairly realistic. Source: Present market conditions in Jakarta.

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Implementation Schedule

CALENDAR YEAR QUARTERS	1974				1975				1976				1977			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<u>KIP</u>																
Kampung Selection -----																
Contract Preparation -----																
Tendering -----																
Construction -----																
<u>SITES AND SERVICES</u>																
Land Acquisition -----																
Detailed Engineering -----																
Contract Preparation -----																
Tendering -----																
Site Construction -----																
External Infrastructure																
Roads -----																
Water Mains -----																
Site Occupancy -----																
<u>TECHNICAL ASSISTANCE</u>																
National Urban Development Corporation Management Assistance -----																
Project Execution -----																
Project Feasibility Studies -----																
Greater Jakarta Planning Board -----																

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JAKARTA URBAN DEVELOPMENT PROJECT
ORGANIZATION CHART

