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QUESTIONNAIRE RELATING TO THE PROGRAMMING OF INFRASTRUCTURE
AND HOUSING - LAND USE AND SPACE INVENTORY FOR AFRICAN URBAN CENTRES

QUESTIONNAIRE RELATING TO THE PROGRAMMING OF INFRASTRUCTURE^{1/}
AND HOUSING -- LAND USE AND SPACE INVENTORY FOR AFRICAN URBAN CENTRES .

Background

1. The enclosed questionnaires have been prepared as part of a study which is intended to yield comparative information on urban land use and development in African Countries.
2. The objective of this project is to obtain quantitative means to ascertain the economic magnitude of the future development effort which will be needed in order to accommodate the growth of African towns and cities - as measured against qualitative indices expressed in terms of levels of physical development.
3. Findings of the study will be made available to African countries through the UNECA as part of a work project entitled "The Programming of Infrastructure and Housing". Findings and recommendations are intended to be specific and pragmatic.
4. The study has now been underway for two years in Ghana, where a computerized system for inventory and analysis has been devised at the University of Science and Technology at Kumasi. During the months of July and August of 1971 a model programme for computerized mapping of data and analysis by location is also being tested out at Kumasi. When sufficiently tested, these programmes will also be available.

The Questionnaires

5. Please furnish all data requested if at all possible - EVEN if APPROXIMATIONS OR ESTIMATES must be used. Resort to estimates will invariably be required both because of the format of the questionnaire and because of occasional lack of base information. It will be more useful to furnish approximate data than to omit information.
6. With respect to Part B - Construction Cost, it is also recognized that any quantity surveyor or cost estimator will hesitate to give out information in answer to general question:

Example:

Question: "What is the cost of 100sq.ft. (1m²) of road surface?"

<u>Possible Answer:</u>	<u>"3-8 Crowns</u>	<u>8-20 Crowns</u>	<u>20-40 Crowns</u>
	Low	Medium	High

7. It is understood that the low figure may cover a minimum specification installed under favourable circumstances, while the high figure will refer to a first quality specification installed under difficult circumstances in a high-cost area.

^{1/} This questionnaire has been prepared with the collaboration of the School of Architecture, Washington University, St. Louis, Missouri 63130, USA. It forms part of their LUSI programme. Their contribution is gratefully acknowledged.

8. The objective is not to be exact but to obtain a range of magnitude. Therefore, please furnish the best possible estimates rather than omitting data from any one question.

9. The same approach holds in the event sizes or quantities of items questioned are not in use locally. Please refer to the closest equivalent, noting the change so that an adjustment can be made in analysis.

Maps Requested

1. In order to enable the quantification of development by levels of cost, it is essential that responding centres furnish a base map, any suitable scale, with an indication (approximate) of areas/sectors within the delineated urban area which are characterized as follows, in terms of building construction at relative, local cost indices:

- (a) Low Cost Construction,
- (b) Medium Cost Construction,
- (c) High Cost Construction.

Indication or coding should be such that approximate area (acres or hectares) may be derived for the three groupings.

- 2. Base map of urban area showing buildings, to scale 1: 10,000 if available or closest equivalent.
- 3. Land use map to scale 1: 10,000, or closest equivalent, showing breakdown of land use classifications used locally.
- 4. Base maps showing buildings of sample areas - Central Area, typical residential areas (Single Family/Multi-family, Low/Med./High Income Housing) to scale 1: 2,500 or closest equivalent.

Please give information in as many urban centres as possible, preferably, the national capital as well as all the district/regional capitals or seats of prefects and/or regional administrative officers.

INFORMATION REQUESTED FOR URBAN LAND USE STUDY

PART 0 - NATIONAL URBANIZATION

1. NAME OF COUNTRY _____

2. TOTAL POPULATION _____
Number of persons

(a) Most recent census _____
date

(b) Previous Census _____
date

(c) Estimated rate of annual population growth to year 2000:

3. PERCENT OF POPULATION NOW URBANIZED _____

3(a) PERCENT RATE OF ANNUAL GROWTH/DECLINE OF POPULATION OF MAIN CITIES

4. LIST TOWNS AND CITIES WITH POPULATIONS FROM 5,000 UP TO 50,000 AND OVER.

TOWN	POPULATION	REMARKS Please indicate main economic role

1. (a) NAME OF URBAN CENTRE _____

(b) LOCATION	State/Province	Country

2. ARE SURVEY MAPS AVAILABLE ? ☐ yes ☐ no

IF YES, At scale close to 1: 2,500	<input type="checkbox"/>	<input type="checkbox"/>	()
	yes	no	scale available
At scale close to 1: 10,000	<input type="checkbox"/>	<input type="checkbox"/>	()
	yes	no	scale available
At scale close to 1: 20,000	<input type="checkbox"/>	<input type="checkbox"/>	()
	yes	no	scale available

At what other scale: _____
Scale

Where may these be purchased: _____ Address _____

3. ARE LAND USE MAPS AVAILABLE ? ☒ yes ☐ no

IF YES, at what scale: _____

Where may these be purchased: _____

4. POPULATION OF RESIDENTIAL AREAS:

(a) Most recent count or census:

No. of persons	date

(b) Previous count or census: _____
No. of persons _____ date _____

(c) Estimated rate of annual growth or decline for next decade:

Rate (per cent)	Growth or decline
-----------------	-------------------

5. STATUTORY PLANNING AREA: _____

Acres or hectares

(Planning area officially under the jurisdiction of urban center in question).

6. NON-RATEABLE LAND: _____

Acres or hectares

(Land within Statutory Planning Area which is not rated for any kind of urban use, including Open Space and Recreation - such as steep cliffs, for example.)

7. UNSUITABLE LAND: _____

Acres or hectares

(Land within Statutory Planning Area which is unsuitable for urban development - such as marsh, areas with poor soil or areas subject to flooding, for example).

8. DEFINITION USED FOR "DEVELOPED LAND":

(For example: "Developed Land must have 50 per cent or more of all sites within its designated boundary developed for their proposed use, while land with less than 50 per cent of sites developed is defined as Vacant....." Example only.)

9. LAND USE AREAS: DEVELOPED LAND ONLY

Where other classification schemes are used than the one set forth below, please strike out those sub-categories listed under each heading which do not apply and substitute any other sub-categories used. Wherever such substitutions or additions are made, please list area (acres or hectares) if available, as a sub-total. This will enable us to convert all data to scheme shown below for comparative analysis.

(a) RESIDENTIAL

Total acres or hectares

Residential (housing areas including communal open space for local residents, but not including neighbourhood amenities such as local shopping, public facilities, schools, public open space and recreational areas).

Sanitary (as adjuncts to housing areas)

(b) PUBLIC

Total acres or hectares

Civic and Cultural

Government Use

Administration

Clinics and Hospitals

Public Utility (not including Sanitary areas in Residential)

Worship

Special

(c) COMMERCIAL

Total acres or hectares

Markets

Lorry Parks (as on-site adjuncts to Markets)

Shops, offices, and other commercial establishments
(central and local)

Mixed Residential and Commercial (Commercial predominant)

(d) EDUCATIONAL

Total acres or hectares

Schools
Colleges and Universities
Institutions (Educational only)

(e) INDUSTRIAL

Total acres or hectares

Industrial ; light and heavy
Manufacturing

(f) TRAFFIC AND TRANSPORTATION

Total acres or hectares

Roads

Parking Areas (not including required/optional on-site parking
in other land uses)

Other Transportation Right-of-Ways, Transit and Terminal
Sites, including

Railways

Airports

Seaports, excluding where possible, any integrated
commercial and public uses

(g) OPEN SPACE AND RECREATION

Total acres or hectares

Public Open Space (not including local, communal spaces part
of housing areas)

Sports

Large Private or Institutional Open Space⁺
Developed Open Space
Undeveloped Open Space or Green Areas [±]
Cemetaries
Nature Reserve
Undetermined[±]

Date of surveys for the above information _____

date

10. VACANT LAND:

(a) Total _____

Acres or hectares

(Statutory Planning Area less (Non-Rateable Land + Unsuitable Land + Total Developed Land)).

(b) By location within boundaries delineating Category of Use.
(For Classification Scheme see 9. above).

Vacant Land in Residential _____

Acres or hectares

Vacant Land in Commercial _____

Acres or hectares

Vacant Land in Public _____

Acres or hectares

Vacant Land in Educational _____

Acres or hectares

⁺ Non-Agricultural open space - residential, commercial, public, or educational. Site beyond immediate area surrounding building(s) is defined as open space where land coverage by building does not exceed 5% of site area.
[±] If insignificant (less than 5% of Total Developed Land) may be included in Open Space and Recreation. If substantial (more than 5% of Total Developed Land), classify as Vacant.

Vacant Land in Industrial

Acres or hectares

Vacant Land in Traffic
and Transportation

Acres or hectares

Vacant Land in Open Space
and Recreation

Acres or hectares

11. LAND USE INTENSITY

(a) For Residential Category

1. If Residential areas are classified according to type - such as Single Family Detached, Multifamily, etc., or Low, Med., and High Income - please list these Sub-Types below and the percentage they occupy out of total Residential area.

Sub-Type	% of total	Sub-Type	% of total


2. Site Coverage Index


per cent

☐ weighted☐ simple

(Percent of land covered by buildings. Please check if weighted or simple average for entire Category. Please give average Site Coverage Index for specific sub-types, if available).

Sub-Type	Per cent	Sub-Type	Per cent

 weighted


 simple


(Please check if weighted or simple average for entire Category. Please give average number of stories above grade for specific sub-types if available).

Sub-Type stories

Sub-Type	stories
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
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93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Sub-Type	stories
1	1
2	2
3	3
4	4
5	5
6	6
7	7
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93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

 weighted

 simple

(Floor Space Rate - English notation)


(Please check if weighted or simple average for entire Category.
Please give average FAR (FSR) for specific sub-types if
available.

Sub-Type	Aver. FAR
----------	-----------

Sub-Type	Aver. FAR
----------	-----------

Sub-Type	Aver. FAR
----------	-----------

weighted

 simple

(Please show number of persons in household defined as an economic unit - people living together, regardless of family relationship. Thus in households with live-in servants, servants are included in household count.) Please check if weighted or simple average for entire Category. Please give average Household Factor for specific sub-types if available.

Sub-type	Household Factor	Sub-type	Household Factor
Sub-type	Household Factor	Sub-type	Household Factor
Sub-type	Household Factor	Sub-type	Household Factor

6. Date of surveys for the above information _____ date

(b) For Central Business District

1. (a) Total area of CBD as delineated _____
acres or hectares

(b) If components of the CBD are classified according to type - such as Retail shopping, Offices, Warehousing, Manufacturing, etc. - please list these Sub-Types below and the percentage they occupy out of total CBD area.

Sub-Type	per cent of total	Sub-Type	per cent of total
Sub-Type	per cent of total	Sub-Type	per cent of total
Sub-Type	per cent of total	Sub-Type	per cent of total

☐ weighted

2. Site Coverage Index _____
per cent ☐ simple

(Per cent of land covered by buildings. Please check if weighted or simple average for entire Category. Please give average Site Coverage Index for specific sub-types, if available.)

Sub-Type	per cent	Sub-Type	per cent
Sub-Type	per cent	Sub-Type	per cent

Sub-Type	per cent	Sub-Type	per cent
----------	----------	----------	----------

Sub-Type	per cent	Sub-Type	per cent
----------	----------	----------	----------

☐ weighted

3. Number of Stories above grade ☐ simple

(Please check if weighted or simple average for entire Category. Please give average number of stories above grade for specific sub-types if available.)

Sub-Type	stories	Sub-Type	stories
----------	---------	----------	---------

Sub-Type	stories	Sub-Type	stories
----------	---------	----------	---------

Sub-Type	stories	Sub-Type	stories
----------	---------	----------	---------

☐ weighted

4. Floor Area Ratio ☐ simple

(Floor Space Rate - English notation)

(Please check if weighted or simple average for entire Category. Please give average FAR (FSR) for specific sub-types if available).

Sub-type	Aver.FAR	Sub-type	Aver.FAR
----------	----------	----------	----------

Sub-type	Aver.FAR	Sub-type	Aver.FAR
----------	----------	----------	----------

Sub-type	Aver.FAR	Sub-type	Aver.FAR
----------	----------	----------	----------

5. Amount of Floor Area in the CBD

Total sq.ft. or m²

Gross

Net

If available, please show breakdown:

(a) Floor Area in Commercial/
Private Office:

sq.ft. or m²

Gross

Net

(b) Floor Area in Public/
government use:

sq. ft. or m²

Gross

Net

(c) Floor Area in Retail
Shopping and other com-
mercial establishments:

sq.ft. or m²

Gross

Net

(d) Floor Area in Indus-
trial/Manufacturing/
Warehousing:

sq. ft. or m²

Gross

Net

6. Number of Estimated Jobs/Work Force in CBD

Total Number: _____

If available:

(a) Number in commercial /private Offices: _____

(b) Number in public/Government sector: _____

(c) Number in retail and other
commercial establishments: _____

(d) Number in industrial/manufacturing/
warehousing: _____

(c) CODE OR ORDINANCE INFORMATION

Please show Maximum/minimum Allowable conditions.

Is an applicable Zoning Ordinance or Planning Code published or available? ☒ Yes ☐ No
If "Yes" please give proper title and address where it may be purchased: .

[illegible]

12. TRAFFIC AND TRANSPORTATION

(a) Automobile Ownership

Rate of private car ownership. Please show estimated number (or fraction) of car(s) per household.

No. or fraction

(Please check if weighted or simple average for entire Residential Category. Please give average rate for specific sub-types if available).

Sub-type	Rate	Sub-type	Rate
Sub-type	Rate	Sub-type	Rate
Sub-type	Rate	Sub-type	Rate

(b) Parking

1. Estimated number of automobiles parked daily in the CBD:

No. of autos

2. Estimated number of automobile parking spaces available in the CBD:

(a) _____

Total No. of spaces

If available:

(h) Number of parking spaces in buildings (including garages):

(c) Number of off-street parking spaces on grade:

(d) Number of parking spaces in streets:

3. Estimated number of automobiles parked in CBD without turn-over for entire duration of working day:

4. Estimated number of persons entering CBD on an average day by private automobile:

5. Average number of passengers per automobile:

All-day average:

Average during commuting rush hours

(c) Rapid and Mass Transit

1. What systems exist?

(a) Rapid Transit?	<input type="checkbox"/>	yes	<input type="checkbox"/>	no
If yes:				
Rail system:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	yes
Surface:	<input type="checkbox"/>		<input type="checkbox"/>	yes
Overhead:	<input type="checkbox"/>		<input type="checkbox"/>	yes
Underground:	<input type="checkbox"/>		<input type="checkbox"/>	yes
Bus system:	<input type="checkbox"/>		<input type="checkbox"/>	yes

(b) Mass Transit?

☐ yes ☐ no

If yes:

Conventional train: ☐ yesStreet cars on rails: ☐ yesElectric trolley bus: ☐ yesConventional bus: ☐ yesPassenger and Cargo truck or lorry: ☐ yesFerry or motor launch: ☐ yesAir shuttle: ☐ yes

Other: _____

2. How many passengers are estimated to enter the CBD on an average day by Rapid and/or Mass Transit:

Number _____

(d) Bicycle UseIf use of bicycles a significant factor: ☐ yes ☐ no

If yes: 1. Are there special traffic lanes in the streets for bicycles:

☐ yes ☐ no

2. How many persons are estimated to enter the CBD on an average day via bicycle:

(e) Travel Time

What is average travel time to CBD from most remote area within boundaries of urban center?

Via auto _____ (minutes)

Via rapid Transit _____ (minutes)

Via Mass Transit _____ (minutes)

Via bicycle _____ (minutes)

(f) Date of surveys for the above data: _____

13. BUDGET

1. Expenditures

(a) Annual Capital Expenditure _____
(Calendar or budget year _____)

(b) Annual Operating Expenses _____
(Calendar or budget year _____)

(c) Total Expenditure _____
(Calendar or budget year _____)

2. Revenues

(a) Total Annual Revenues _____
(Calendar or budget year should be same as that in 13.1)
c. directly above).

3. Source of Deficit Funding

(a) If expenditures exceed local taxes and other revenues, what is source of subsidy?

National government: ☐ yes ☐ no _____
% of subsidy

State/Provincial Government: ☐ yes ☒ no _____
% of subsidy

Sale of bonds: ☐ yes ☐ no _____
% of subsidy

Other: _____
% of subsidy

Please explain if "Other": _____

DEFINITIONS AND CLARIFICATION OF TERMS

PART A

1. Question 11. LAND USE INTENSITY

- (a) 2), 3), 4), 5); (b) 2), 3), 4), Question asks for data in terms of weighted or simple average for entire Category.

Assume, for example, that the question refers to Site Coverage Index. The answer is here stated as a percentage. Assume further that the Residential Category is subdivided into two Sub-Types: Type 1 (Single Family), and Type 2 (Multifamily). Assume that Type 1 comprises 80 per cent of the entire land area of the Category, with a Site Coverage Index of 20 per cent, while Type 2 comprises 20 per cent of the land area of the Category, with a Site Coverage of 60 per cent.

The answer as a Simple average would give the Site Coverage Index for the entire Category as the simple average between Type 1 and Type 2: $(20 \text{ per cent} + 60 \text{ per cent})/2 = 40 \text{ per cent}$.

The answer as a weighted average would give the Site Coverage Index for the entire Category as the weighted average between Type 1 and Type 2, using the land area of each type, out of the total, as the weighting factor: $(20 \text{ per cent} \times 80/100) + (60 \text{ per cent} \times 20/100) = 28 \text{ per cent}$.

In the same manner, answers for Numbers of Stories above Grade, Floor Area Ratio, and Household Factor may be simple or weighted averages.

2. Question 11. LAND USE INTENSITY

- (a) 3), (b) 3)

Number of Stories above Grade

Includes floor levels for occupancy. Does not include roof structure, utility penthouses, or superstructure.

- (a) 4), (b) 4)

Floor Area Ratio (American notation)

Floor Space Rate (English notation)

FAR (FSR) is defined as the ratio of Gross Building Area above grade, less service Area, to the area of the site:

$$(\text{Gross Building} - \text{Service Area})/\text{Site Area} = \text{FAR}$$

The FAR is stated as a number or a Fraction, not as a percentage.

The Service Area is part of the Gross Building Area allocated for any of the following:

Mechanical equipment, building storage, semi-public toilets and washrooms, janitorial spaces, parking spaces and ancillary garages and car ports.

Frequently, parking is the principal component of Service Area. In lieu of available data, note or write next to the Question any percentage of Gross Building Area which has been assumed to be (average) Service Area for purpose of calculating FAR. This will enable later comparison or rectification of data.

INFORMATION REQUESTED FOR URBAN LAND USE STUDY

PART A: SUPPLEMENT - GENERAL INFORMATION

Name of Urban Centre

Population

1. Economic Base

Check as applicable.

- (a) Advanced ☐
- (b) Developing ☐
- (c) Subsistence ☐
- (d) Diversified ☐
- (e) Primary ☐
- (f) Secondary ☐
- (g) Dependent ☐
- (h) Expanding ☐
- (i) Declining ☐
- (j) Other ☐

Please explain briefly _____

2. Functions

Check as applicable.

- (a) Administrative ☐
- (b) Communications ☐
- (c) Commercial ☐
- (d) Social Services ☐
- (e) Industrial ☐
- (f) Extractive ☐
- (g) Recreation/Resort ☐
- (h) Diversified ☐
- (i) Other ☐

Please explain briefly _____

3. Service Grade

Check as applicable.

Highest ranking is "A"

- (a) A ☐
- (b) B ☐
- (c) C ☐
- (d) D ☐
- (e) E ☐
- (f) Other ☐

Please explain briefly _____

Please note if ranking is informal as based on an actual ranking scheme.

Formal ☐

Informal ☐

Please note if ranking is regional ☐

national ☐

Other ☐

Please explain/amplify briefly _____

4. Form

Check as applicable

- (a) Concentric ☐
 (b) Radial ☐
 (c) Radio-Concentric ☐
 (d) Linear ☐
 (e) Nuclear ☐
 (f) Other ☐

Please explain/amplify _____

5. Structure

Check as applicable

- (a) Cellular ☐
 (b) Continuous ☐
 (c) Informal ☐
 (d) Formal ☐
 (e) Grid Pattern ☐
 (f) Other ☐

Please explain/amplify _____

6. Geographic Zone

- (a) Temperate ☐
 (b) Sub-Tropic/Tropic ☐
 (c) Coastal/Lowlands ☐
 (d) Mountain/Highlands ☐
 (e) Forest ☐
 (f) Savannah/Steppe/
Desert ☐
 (g) Arid ☐
 (h) Humid ☐
 (i) Other ☐

Please explain/amplify
briefly _____

7. Culture

- (a) Homogeneous ☐
 (b) Heterogeneous ☐
 (c) Traditional ☐
 (d) Technologically
Advanced ☐
 (e) Other ☐

Please explain/amplify
briefly _____

PART B - CONSTRUCTION COST

1. (a) NAME OF URBAN-CENTER _____

(b) LOCATION _____
State/Province Country

2. CONSTRUCTION COST

Please furnish as much data as possible. Give cost ranges, i.e., for example - Low: Nø 3-5, Med: Nø 5-8, High: Nø 8-15.

All costs should be in-place costs with labour, materials, contractor's overhead and profit included. Where self-help construction is involved, show only actual cash expenditures, af any.

(a) Building Cost

1. Light Construction (up to 3 stories)

Cost/sq.ft.	_____	_____	_____
	Low	Medium	High
or			
Cost/m ²	_____	_____	_____
	Low	Medium	High

2. Heavy Construction (above 3 stories)

Cost/sq.ft.	_____	_____	_____
	Low	Medium	High
or			
Cost/m ²	_____	_____	_____
	Low	Medium	High

(b) On-Site Service Costs

Expressed as a percentage of Building Cost.

Approximate percentage: _____
Low Medium High

(c) Off-Site Infrastructure Cost

1. Roads/Streets:

(a) Unpaved. Cost per 100 sq.ft. or $\pm 10m^2$

Approximate Cost

Low

Medium

High

(b) Paved (bituminous) surface, first quality.
Cost per 100 sq.ft. or $\pm 10m^2$ of surface.

Approximate Cost

Low

Medium

High

2. Water Supply Pipe:

4" or 10 cm. diameter, or approximate equivalent. Cost per
running foot or per meter .

Approximate Cost

Low

Medium

High

3. Gas Supply Pipe:

4" or \pm cm. diameter. Cost per running foot or
per meter .

Approximate Cost

Low

Medium

High

4. Sanitary Sewer Pipe:

24" or \pm 60 cm. diameter. Cost per running foot
or per meter .

Approximate Cost

Low

Medium

High

5. Storm Sewer Pipe:

36" or \pm 90 cm. diameter. Cost per running foot
or per meter .

Approximate Cost

Low

Medium

High

6. Overhead Electric Power Line:

33 kv. double circuit, rail poles, .05 sq.in. or 1.3 cm.²
A.A.C. conductor, 20,000 kva rating.
Cost per mile or per kilometer .

Approximate Cost

Low

Medium

High

7. Telephone Transmission Line

Rail poles. Cost per mile or per kilometer .

Approximate Cost

Low

Medium

High

(d) Date (month/year) to which the above cost data valid

Date

3. MATERIALS AND LABOUR COSTS

(a) Materials Cost

1. Cost of plain concrete/cu.yd. or m³:
(± 3,000 lb concrete at place of mixing)

2. Cost of reinforcing steel/100 lb or
50 kg:

3. Cost of structural steel/100 lb or 50 kg:

4. Cost of standard, fired clay brick/
100 units:

5. Cost of structural wood/nominal
4" x 4" x 10' or 10 cm x 10 cm x 3 m:

(b) Labour Cost

Daily (8 hr.) wage of the following:

1. Unskilled labourer _____
2. Skilled mason _____
3. Skilled steel worker _____
4. Skilled carpenter _____

(c) Ratio of Materials and Labour Cost

1. Light Construction (up to 3 stories):

- | | | |
|----------------|--------------------------------|--------------------------|
| (a) Low Cost: | _____ | _____ |
| | Materials:per cent of
total | Labour:per cent of total |
| (b) Med.Cost: | _____ | _____ |
| | Materials:per cent of
total | Labour:per cent of total |
| (c) High Cost: | _____ | _____ |
| | Materials:per cent of
total | Labour:per cent of total |

2. Heavy Construction (above 3 stories):

- | | | |
|----------------|--------------------------------|--------------------------|
| (a) Low Cost: | _____ | _____ |
| | Materials:per cent of
total | Labour:per cent of total |
| (b) Med.Cost: | _____ | _____ |
| | Materials:per cent of
total | Labour:per cent of total |
| (c) High Cost: | _____ | _____ |
| | Materials:per cent of
total | Labour:per cent of total |

(d) Date (month/year) to which the above cost data valid _____
Date

4. SITE LOCATION FACTOR

If construction costs at this location are generally higher or lower than those of other centers, and if difference is known, please identify:

- (a) Costs are lower ☐, or higher ☐, by approximately _____ per cent than those at _____ other urban center for comparable installations.

The reason is understood to involve the following with reference to this location:

1. Labour usage differential ☐
2. Cost of transportation of labour ☐
3. Cost of transportation of materials ☐
4. Site conditions ☐
5. Other _____

5. SITE CONDITION FACTOR

If construction costs at this site or in this general area are higher or lower than those on average site, please identify:

- (a) Construction costs here are generally lower ☐, or higher ☐, by approximately _____ per cent than those of average site for comparable installations.

The reason is generally understood to involve the following with reference to this location:

- | | |
|---|---|
| 1. Soil conditions <input type="checkbox"/> | 2. Climatic conditions <input type="checkbox"/> |
| Poor bearing <input type="checkbox"/> | Excessive heat <input type="checkbox"/> |
| Rocky soil <input type="checkbox"/> | Excessive cold <input type="checkbox"/> |
| Expansive soil <input type="checkbox"/> | Extreme winds <input type="checkbox"/> |
| | Extreme rains <input type="checkbox"/> |
| 3. Other _____ <input type="checkbox"/> | |

PART B SUPPLEMENT

NAME OF URBAN CENTER _____

LOCATION _____

1. DEVELOPMENT COST SCORES

Monetary Unit Used _____

Low

Med.

High

(a) Building Cost1. Light Construction/
10 sq.ft. or m² :2. Heavy Construction/
10 sq.ft. or m² :

Building Cost Scores: _____

(b) On-Site Service Cost1. Percent of Building
Cost:

Low per cent Med. per cent High per cent

2. Amount/10 sq.ft. or
+ m² of building:

On Site Service Cost Scores: _____

SUB-TOTAL: (a) + (b) : _____

Low

Med.

High

SUB-TOTAL: (a) + (b)

(c) Off-Site Infrastructure Cost

1. Roads/Streets

(a) Unpaved Road/100
sq.ft. or $\pm 10 \text{ m}^2$:

(b) Paved Road/100 sq.
ft. or $\pm 10 \text{ m}^2$:

2. Water Supply Pipe/
3 ft. or 1 m:

3. Gas Supply Pipe/
3 ft. or 1 m:

4. Sanitary Sewer Pipe/
3 ft. or 1 m:

5. Storm Sewer Pipe/
3 ft. or 1 m:

6. Overhead Electric
Power Line/mile or
1.5 km:

7. Telephone Transmission
Line/mile or 1.5 km:

Off-Site
Infrastructure Cost Scores:

(d) TOTAL DEVELOPMENT COST SCORE:

Low

Med.

High

3. LEVEL OF DEVELOPMENT: RESIDENTIAL AREAS

SCORE RANGE: HIGH: _____ MED.: _____ LOW: _____		NET AREA	BUILDING COST SCORE	ON-SITE SERVICE COST SCORE	TOTAL ON-SITE COST SCORE	AREA WEIGHTING FACTOR ^{1/}	WEIGHTED ON-SITE COST SCORE	OFF-SITE INTERNATIONAL COST SCORE	AREA WEIGHTING FACTOR 2	WEIGHTED OFF-SITE INFRASTRUCTURE COST SCORE	TOTAL COST SCORE
RESIDENTIAL TOTAL +											
SUB-TYPES											
RESIDENTIAL SCORE											

- (a) RESIDENTIAL DEVELOPMENT COST INDEX^L =
(Residential Score/Highest Score) x 100% = _____
- (b) RESIDENTIAL DEVELOPMENT COST INDEX^I =
(Index^L) x (Exchange Factor) = _____ x _____ = _____
(Where Exchange Factor =
Number of local Monetary Units/Unit of reference currency
_____/_____) = _____)

+ Use Total alone if Sub-Type information not available.

^{1/} AWF 1: per cent of Total Residential Net Area.

AWF 2: (per cent of Gross Residential (Sub-Type) with which associated) x (AWF 1)

4. LEVEL OF DEVELOPMENT: CENTRAL BUSINESS DISTRICT

SCORE RANGE: HIGH: _____ MED : _____ LOW : _____		NET AREA	BUILDING COST SCORE	ON-SITE SERVICE COST SCORE	TOTAL ON-SITE COST SCORE	AREA WEIGHTING FACTOR 1 ⁺	WEIGHTED ON-SITE COST SCORE	OFF-SITE INFRASTRUCTURE COST SCORE	AREA WEIGHTING FACTOR 2 ⁺	WEIGHTED OFF-SITE INFRASTRUCTURE COST SCORE	TOTAL COST SCORE
CBD TOTAL ⁺											
COMMERCIAL											
PUBLIC USE											
MANUFACTURING											
INDUSTRIAL											
CBD SCORE											

(a) CBD DEVELOPMENT COST INDEX^L =
(CBD Score/Highest Score) x 100 per cent = _____

(b) CBD DEVELOPMENT COST INDEX^I =
(Index^L) x (Exchange Factor) = _____ x _____ = _____

+ Use Total alone if sub-type information not available

AWF 1: per cent of Total CBD Net Area

AWF 2: (per cent of Gross CBD (Sub-Type) with which associated) x (AWF 1)