

無償資金協力案件の事業費積算に  
関する基礎調査報告書

(別冊 バングラデシュ編)

昭和62年3月

国際協力事業団

無計計

SC

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国際協力事業団		
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## バングラデシュ資料

無償施設案件におけるより適正な事業費積算を図る上で、当該国におけるコストデータ、つまり現地における正確なコスト情報の蓄積・整備が今後の重要な鍵となる。

下記に、バングラデシュ国における現地調査で得た資料を基に、当該国ジェネラル・コストデータベースの形に要約した。

今後、他の国においても同様なコストデータベースを整備し、常時最新情報が蓄積されるようメンテナンス処理を施すことの意義は極めて大きいと考えられる。

### 1. ジェネラル・コストデータベース項目の内容

現地調査にて入手した資料を、次ページ(表-1)に挙げる主要項目に従って分類し、バングラデシュにおけるジェネラル・コストデータベースの概要として次ページ以降にまとめた。

表-1 ジェネラル・コストデータベース項目

A.	現地国一般建設コストデータ	
A. A	概 要	当該国の建設コストにおける特徴、傾向、特性等現行データを常にメンテナンスした最新データ (インフレ率、為替レート等)
A. B	指 数	当該国の建築コストインデックス、建築コスト指数、値動きの状況
A. C	労 務	建設産業における、建設工事労務費、労務時間、労務契約状況、労務に関する保険、税金、歩掛データ
A. D	資材及び建設機械	主要資材価格及び建設産業に使用されるプラント機械の値段の動き、材料の歩掛りデータ
A. E	工 法	当該国の建設工法の特徴及び作業方法
A. F	法 律	建設産業に影響を及ぼす、法律、法令の概要
A. G	統計及び経済指数	当該国の建設産業に係わる、投資額、就業率、経済状況等の統計、経済指標データ
A. H - A. K (空欄)		
A. L	地 域 差	当該国内での地域差によるコスト指数の違いと傾向性
A. M	予定価格	予定価格及び予算算出指標計画一覧表
A. N	コンサルタントへの報酬額と業務内容	コンサルタント業務報酬額に関する資料及び業務範囲
B.	現地建設事情についての刊行物の概要	建築のコスト面に関連する出版刊行物の概要
C - E (空欄)		
F.	実績コスト調査	実績プロジェクト概要コストを分析し、企画時における予算算出、概略予算に利用できるようにまとめたもの。
G.	詳細コスト分析	実績詳細コストデータであり、予算価格の作成、もしくは、審査における有効なデータ情報システム
H.	現行ローカル市場価格及び複合単価	現行の流通している材料費、労務費そして建設工事複合単価積み上げの根拠データ
K - Y (空欄)		
Z.	参照用索引	このデータベース内での検索用として整理した参照用、索引累積一覧表

## 2. 現地国一般建設コストデータ (A)

### 2-1 概要 (A・A)

#### (1) 為替レートの変動

EXCHANGE RATES  
(PERIOD AVERAGE OFFICIAL RATES & MARKET RATES)

TABLE-XVIII

Name of Currency	Taka per Pound Sterling		Taka per U.S. Dollar		Taka per Deutsche Mark	Taka per Japanese Yen
	Official Rate	WES Rate	Official Rate	WES Rate	Official Rate	Official Rate
1972-73	18.8001	—	7.8763	—	2.5707	0.0272
1973-74	18.8001	—	7.9664	—	3.1071	0.0286
1974-75	20.8064	—	8.8752	—	3.6372	0.0308
1975-76	29.3600	—	15.0541	—	5.8117	0.0496
1976-77	26.5077	—	15.4260	—	6.3741	0.0536
1977-78	27.6126	36.12	15.1168	19.86	6.9855	0.0626
1978-79	30.5002	38.54	15.2231	19.68	7.9901	0.0762
1979-80	34.4975	42.47	15.4900	19.21	8.6710	0.0665
1980-81	37.2535	45.69	16.2586	20.11	8.1525	0.0765
1981-82	36.7613	41.86	20.0652	22.79	8.5393	0.0859
1982-83	38.2688	38.83	23.7953	24.12	9.6184	0.0970
1983-84	36.2302	39.32	24.9437	27.16	9.2938	0.1065
1984-85	31.7647	35.97	25.9634	29.29	8.4951	0.1045
Jul.-Sept.	32.8631	36.02	25.2831	27.62	8.6819	0.1039
Oct.-Dec.	31.6006	35.33	25.8447	28.84	8.5074	0.1053
Jan.-Mar.	29.1855	33.40	26.1875	29.58	8.0799	0.1017
Apr.-Jun.	33.9071	39.11	26.9894	31.13	8.7397	0.1076
1985-86	43.0297	47.10	29.8861	32.74	12.0051	0.1508
July	38.7266	43.06	28.0972	31.28	9.6525	0.1164
August	39.7680	43.72	28.7100	31.63	10.2888	0.1210
September	39.6693	43.76	29.2500	32.10	10.2500	0.1230
October	42.2699	46.20	29.7639	32.58	11.2471	0.1385
November	43.3516	47.11	30.1000	32.81	11.6041	0.1474
December	44.2937	48.35	30.6250	33.30	12.1850	0.1510
January	43.9274	47.35	30.8333	33.33	12.6160	0.1538
February	43.5039	47.20	30.3462	33.18	13.0274	0.1644
March	44.5087	48.57	30.3000	33.18	13.3662	0.1698
April	45.7618	49.71	30.3000	33.20	13.4093	0.1751
May	46.1257	50.29	30.3000	33.17	13.6129	0.1817
June	45.6670	49.91	30.3000	33.16	13.5489	0.1806
1986-87						
July	45.7202	49.95	30.3000	33.16	14.0818	0.1911
August	45.0161	49.10	30.3000	33.15	14.6917	0.1967
September	44.5925	48.79	30.3000	33.15	14.8278	0.1958
October	43.2795	47.45	30.3000	33.15	15.1358	0.1941
November	43.4527	47.17	30.5000	33.15	15.0887	0.1874

Source : i) Balance of Payments Division, Statistics Department, Bangladesh Bank.  
ii) Wage Earners' Branch, Sonali Bank.

Note : Official rates and WES rates are respectively weighted averages and simple averages for the related periods.

'—' Nil.

## 2-2 指数 (A・B)

(1) コストインデックス

### Indices\* of cost of building construction. (Base : 1969-70=100).

Item	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86
General Index ...	485	509	617	724	847	831	833	924	1050
Building materials ...	543	549	642	797	925	922	913	1016	1134
Wage rates ...	298	369	449	540	659	635	634	685	830
Transport charges ...	528	469	551	552	628	623	723	816	977

Note : \* National indices.

Source : B. B. S.

### Cost of Living Index for Industrial Workers by Expenditure Groups (Base: 1969/70—100)

#### KHULNA

Year/Month	General	Food	Apparel, textile and footwear.	Housing and household operating.	Miscella- neous.
Weight	100.0	69.8	10.4	9.3	10.5
1972/73 .. ..	173	169	207	161	180
1973/74 .. ..	251	238	382	232	226
1974/75 .. ..	411	427	450	331	343
1975/76 .. ..	347	340	389	348	346
1976/77 .. ..	341	331	346	411	343
1977/78 .. ..	397	384	454	477	351
1978/79 .. ..	437	422	467	575	389
1979/80 .. ..	498	497	472	613	419
1980/81 .. ..	538	525	535	720	468
1981/82 .. ..	618	617	582	781	512
1982/83 .. ..	636	641	626	735	526
1983/84 .. ..	706	713	736	782	562
1984/85 .. ..	784	789	868	863	601
1985/86:					
July .. ..	846	845	911	981	672
August .. ..	846	843	912	987	678
September .. ..	852	849	914	1001	676
October .. ..	871	869	931	1025	682
November .. ..	878	877	941	1030	691
December .. ..	879	878	942	1028	692
January .. ..	878	872	950	1054	695
February .. ..	875	867	947	1065	692
March .. ..	871	858	964	1082	680

Source: Bangladesh Bureau of Statistics.



## 2-3 勞務 (A·C)

### (1) 勞務賃金

Annual average daily wage rate of construction labour by type of labour at principal towns.

(Taka per day)

Type of Labour	Town	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
Mason	Dhaka	34.88	39.63	45.50	54.25	55.83	60.54	61.17
	Narayanganj	34.50	37.30	45.45	52.00	52.72	55.50	61.13
	Chittagong	35.00	40.77	46.41	52.33	60.00	61.22	64.83
	Rajshahi	33.27	26.20	26.50	30.00	32.50	35.46	39.29
	Khulna	23.95	28.43	33.70	34.32	42.37	43.00	44.00
	Sylhet	26.03	32.45	35.87	42.86	42.85	45.71	55.14
	Rangpur	29.29	30.63	31.00	35.13	35.93	42.08	48.54
Helper (Jogali)	Dhaka	17.55	20.64	25.00	24.92	26.83	27.36	30.37
	Narayanganj	18.36	18.60	24.00	23.68	24.59	28.45	32.45
	Chittagong	19.47	21.00	27.00	26.17	30.46	27.27	33.79
	Rajshahi	15.13	14.83	16.00	16.00	16.79	22.50	24.29
	Khulna	15.00	13.57	19.00	19.15	17.46	21.15	21.12
	Sylhet	13.66	14.78	15.62	24.32	22.42	22.37	23.90
	Rangpur	13.25	15.53	16.00	17.41	18.86	25.22	24.79
Carpenter	Dhaka	29.95	35.67	45.16	54.71	52.58	59.73	60.37
	Narayanganj	30.18	34.40	42.71	53.50	51.63	52.55	60.72
	Chittagong	36.57	40.37	49.37	56.58	59.58	60.62	62.08
	Rajshahi	21.57	24.13	28.08	33.75	37.08	42.00	43.17
	Khulna	17.88	20.00	26.33	29.87	32.25	40.40	37.87
	Sylhet	21.00	23.84	25.29	34.36	39.64	38.00	41.68
	Rangpur	24.61	24.53	31.91	34.59	34.37	41.67	42.12

Source : B. B. S.

Average wage rates of agricultural and non-agricultural day labourers by sex : 1983-84.

(Taka)

Labourer	Bangladesh			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Agricultural	14.5	14.7	7.1	15.3	15.3	*	14.5	14.7	7.0
Non-Agricultural	15.9	18.1	7.2	18.6	19.6	9.6	15.1	17.6	6.9

Note : \* Not well represented in the sample.

Source : Labour Force Survey, 1983-84.

(2) 工事保険

: 現地聴き取り調査による。調査対象は p. 26 参照。

Construction Insurance

It is assumed that this construction site is located in the central area of the city and the total floor area is 3,000 m<sup>2</sup>.

No.	ITEM	UNIT	B(L)	C(L)	F(CONSULT)
1.	Building construction insurance: (What percent of the total contract price do you allow?)	%	Contractor's All-Risk insurance policy		Contractor All-Risk and Erection All Risk } 1.5% of the cost
2.	Liability insurance:	%	1% - 1.25% of the total cost of the Project	> 0.4% of Contract price	
3.	Worker's liability compensation insurance: (What percent of the total wage do you allow?)	%	Full value of worker's wages		0.5%
4.	Automobile insurance: (What percent of the insurance amount do you allow?)	%	Full value of the automobiles maintained for the Project		250.00/year

Note \* A(L): These charges vary from project type to type as well as dependent on the particular client's requirement.

\*\* D(M), E(S), G(GOV'T) companies did not respond to these questions.

2-4 資材及び建設機械 (A・D)

(1) 資材費

Annual average wholesale price of selected building materials at principal towns.

(Price in taka)

Items	Town	Unit	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	
1. Bricks-19" (first class)	Dhaka	1000	653	834	1057	1323	1091	1274	1408	1538	
	Narayanganj	"	641	839	1072	1320	1081	1278	1360	1505	
	Chittagong	"	700	879	1285	1817	1375	1621	1547	1676	
	Rajshahi	"	767	806	905	1066	931	910	1158	1384	
	Khulna	"	633	672	963	1079	926	1107	1285	1426	
	Sylhet	"	795	883	1059	1433	1354	1384	1495	1620	
	Rangpur	"	757	759	918	1120	1003	1194	1433	1632	
2. (a) Cement (A.B.C.)	Dhaka	Bag	64	100	91	95	107	104	105	108	
	Narayanganj	"	64	99	92	96	109	104	105	108	
	Chittagong	"	63	83	87	101	105	98	102	102	
	Rajshahi	"	71	107	94	105	—	123	124	113	
	Khulna	"	64	84	89	—	150	107	103	106	
	Sylhet	"	66	96	97	107	117	123	119	119	
	Rangpur	"	74	105	96	113	114	125	125	125	
	(b) Cement (Korca)	Dhaka	"	64	109	92	111	108	105	106	110
		Narayanganj	"	64	100	93	111	100	106	107	110
		Chittagong	"	64	85	87	103	104	96	102	101
		Rajshahi	"	73	112	95	108	115	—	124	122
		Khulna	"	65	84	89	105	112	105	103	106
		Sylhet	"	77	100	—	106	118	114	118	122
		Rangpur	"	76	116	106	120	117	126	122	124
3. Sand (coarse, sup.)	Dhaka	100 cft.	161	181	286	318	281	318	478	598	
	Narayanganj	"	150	205	290	299	282	339	505	588	
	Chittagong	"	144	196	202	188	92	96	128	198	
	Rajshahi	"	104	133	190	213	154	118	400	324	
	Khulna	"	172	189	286	187	226	371	318	400	
	Sylhet	"	111	148	185	198	168	179	245	184	
	Rangpur	"	114	122	154	213	236	96	255	322	
4. Iron rods ( $\frac{3}{8}$ " or 3 suta)	Dhaka	Cwt.	465	567	595	628	607	657	698	670	
	Narayanganj	"	466	551	598	624	618	643	725	682	
	Chittagong	"	469	550	589	620	625	671	684	697	
	Rajshahi	"	450	489	607	645	582	526	580	732	
	Khulna	"	449	561	611	620	591	630	787	707	
	Sylhet	"	478	563	613	672	666	534	628	808	
	Rangpur	"	488	493	655	669	648	644	756	727	
5. C. I. sheet (26 gauge)	Dhaka	Bundle	1324	1409	1511	1639	2032	2318	2621	2830	
	Narayanganj	"	1270	1278	1528	1659	1968	2369	2720	2798	
	Chittagong	"	1267	1380	1478	1660	2133	2319	2352	2648	
	Rajshahi	"	1313	1387	1544	1622	1817	—	2500	—	
	Khulna	"	1164	1433	1623	1542	1932	2300	2498	2360	
	Sylhet	"	1376	1421	1459	1583	1904	2503	2586	2801	
	Rangpur	"	1307	1388	1541	1478	1760	1936	2376	2464	

(2) 建設機械

: 現地聴き取り調査による。調査対象は p. 26 参照。

Machinery Hired by Contractor

It is assumed that this machinery is acquired on a lease basis.

No. ITEM	COST/DAY A(L)	B(L)	C(L)	D(M)	E(S)	F(CONSULT)	G(GOV'T)
1. Motor lorry, not exceeding 5 tons	2,000.00/day	1,000.00/day	2,000.00/day	---	---	1,000.00/day	1,077.00/day
2. Concrete mixer 10/7	2,000.00/day	1,200.00/day	500.00/day	---	---	500.00/day	308.00/day
3. Bar machine hand operated	500.00/day	250.00/day	---	---	---	---	---
4. Mechanical excavator with single equipment	10,000.00/day	2,500.00/day	---	---	---	---	5,850.00/day
5. Crane	4,000.00/day	5,000.00/day	---	---	---	5,000.00/day (8 hours)	2,307.00/day

B(L) - \*\* Mechanical excavator with single equipment and crane are to be required on lease basis from Gov't department or autonomous organization if available.

## 2-5 工 法 (A・E)

### (1) 建築工法

: 現地聴き取り調査による。調査対象は p. 26 参照。

#### METHODS OF CONSTRUCTION:

- 1) Can you point out any special information which is crucial to designing a building for this country?

G(GOV'T) - Generally cast in site. Normal design construction with special care for construction in coastal belt, where the structures are subjected to cyclones and salinity.

- 2) What is the main structure for the following buildings? (R.C., Steel, Brick, etc.)

a) Housing - R.C. and bricks

b) Major Public Works  
Departmental Bldg. - R.C. and bricks

- 3) What is the general construction method for each of the following trades? (ie. What equipment, labour, technology and materials are utilized?)

a) Scaffolding - Bamboo and wooden planks

b) Excavating - Manual

c) Concrete work - Mixer machine, manual & mechanical

d) Form work - Timber

e) Reinforcement  
steel - Mild steel, round & deformed base

f) Brick work - with cement mortar and lime mortar

g) Roofing - R.C., C.I. steel, asbestos sheet

h) Internal finishes - Medium finish with plaster, white wash & painting

j) Electricity - Conceal/ exposed wiring with 220 volt

k) Plumbing - Conceal/ exposed

l) Air-conditioning - window/ package/ split type/ central

## 2-6 法律 (A・F)

: 現地聴き取り調査による。調査対象は p. 26 参照。

### (1) 入札及び契約

#### TENDERING AND CONTRACTING PROCEDURE:

#### 1) What is the basic method of tendering and contracting for a public service project?

G(GOV'T) - For small and medium sized works, tenders are received from enlisted contractors after advertisements in newspapers and the lowest tender is awarded the work.

For large and sophisticated projects, enlisted contractors are pre-qualified in advance of tender with regard to their competence for executing the project and work is awarded to the lowest pre-qualified contractor after obtaining tenders from the pre-qualified contractors only after advertisement in the newspaper.

#### 2) What is the standard method of tendering? (ie. selective or open tendering)

G(GOV'T) - Open tendering.

#### 3) Who acts as the Contract Manager in the case of a public service contract? (ie the contractor or a public servant)

G(GOV'T) - Project Manager: Executive Engineer  
Project Director: Superintending Engineer

#### For the Public Works Department:

#### 1) Could you please provide us with an organizational chart of the Public Works Department, including descriptions of the individual positions and the number of staff involved.

#### 2) What is the overall budget for the department for one years term?

G(GOV'T) - overall budget: 1986-'87 - tk. 2,500 million

#### What is the amount of the workload (ie. number of projects)?

G(GOV'T) - workload: 180 schemes at 1,292 different locations

2-7 統計及び経済指数 (A・G)

(1) 経済指数

Production of selected

Items	Unit	1976-77		1977-78		1978-79	
		Quantity	Value	Quantity	Value	Quantity	Value
1. Food manufacturing :							
Shrimps and frog legs.	... M.Ton	3323	277695	2887	193826	3430	286909
Atta, maida and suji	... "	25966	58857	27251	69281	25827	70061
Bread and biscuit	... "	4305	65864	5417	85759	6540	10961
Sugar	... "	142252	970283	178071	121460	132812	856414
Molasses	... "	59671	16151	83293	56320	61850	14228
Mustard oil	... "	7754	96430	5664	97785	3565	62113
Soyabean oil	... "	10811	123308	14874	162987	13162	202052
Tea (black)	... kg.	34028	578676	35183	669527	34204	634777
Vegetable ghee	... M. Ton	6718	112609	7213	121478	6161	117938
Sea salt (crude)	... '000' maunds	12107	...	22042	...	22228	...
2. Beverage industries:							
Rectified spirit	... L.P.G.	291969	...	413455	...	376870	...
Other spirit	... "	359648	...	393625	...	319464	...
Foreign type liquor	... "	21571	...	35502	...	103225	...
Country type liquor	... "	222592	...	286814	...	373003	...
Soft drink	... '000' D.B.	918	19824	1247	29329	1667	39904
3. Tobacco manufacturing:							
Cigarettes	... Million	11634	...	11974	...	13531	...
4. Textile manufacturing:							
Cotton yarn	... '000' lbs	82422	1529258	89760	2115194	96579	2182015
Cotton cloth	... '000' yds.	68124	380831	82552	607583	85012	626538
Hessian	... M. Ton	169144	1342938	179477	1648256	178075	2121597
Sacking	... "	230624	1103883	269709	1645790	235311	1784454
Carpet backing	... "	71563	368787	77380	...	75995	564242
Others	... "	25148	142778	28560	170908	18592	139634
Synthetic yarn	... '000' lbs.	3122	53228	2869	57289	3432	81048
5. Paper products :							
Writing	... M. Ton	10517	96668	12199	113166	13102	116593
Printing	... "	9147	80090	12031	111601	13778	131873
Packing and others	... "	7219	62154	7826	72591	5027	48197
Newsprint	... "	14822	81737	28975	153192	34145	198770
Particle board	... "	2136	8728	2787	11353	1968	13346
Hard board	... '000' sq.m.	1775	10721	1820	11182	1653	11879
6. Rubber products :							
Cycle tyres and tubes	... Doz.	29615	7937	31889	8865	15158	4410
7. Chemicals and fertilizers :							
Urea	... M. Ton	285844	487849	212054	361922	294708	512093
Amn. sulphate	... "	9260	9761	9453	9965	5328	8685
T.S.P.	... "	47978	205416	38270	163851	58034	252377
Sulphuric acid	... "	3256	2948	4579	4146	12515	...
Hydro. acid	... "	1489	1627	1715	3238	1872	...
Caustic soda	... "	5099	42318	5696	52685	5502	52509
Chlorine	... "	2952	24887	3807	35784	3902	...
D.D.T.	... "	387	11594	445	17622	462	17720
Medicine (value of prod.)	... '000' Tk.	—	486947	—	524975	—	762968
Medicated wine	... L.P.G.	42246	...	56962	...	142161	...
Paints and varnishes	... Gallon	259703	56115	224393	74790	461794	94410
Matches	... '000' G.B.	7564	121024	8045	152855	9120	220540
8. Petroleum prod.	... M.Ton	1075158	—	1017232	—	1031975	—
9. Non-metallic mineral prod. :							
Glass sheet	... '000' sft.	5810	17430	7550	22650	8373	33492
Cement	... M.Ton	307666	305441	338614	372472	322473	372588
10. Basic metal prod.:							
Steel ingot	... M.Ton	107715	365006	116916	408038	126371	961489
M.S. rod	... "	49223	338831	57207	377406	61893	466355
M.S. plate	... "	20590	155570	10148	75592	23358	185997
B.P. sheet	... "	1570	13825	3068	26919	1977	19868
G.P. sheet	... "	10700	96642	6900	67544	13691	177681
Billet (2"sq.)	... "	56057	281686	60954	308427	99496	601402

## 2-8 地域差 (A・L)

(1) レンガ価格の地域差

Position of Brick fields—1982.

Thanas	Number of brick fields	Daily average number of labourers	Number of bricks manufactured (in 000)	Number of bricks sold-out (in 000)
Dhamrai	02	250	8400	6750
Dohar	—	—	—	—
Keraniganj	25	2550	3000	1500
Nawabganj	01	50	1500	1000
Savar	25	150	112500	140
Gulshan, Demra, Mirpur & Mohamadpur (Rural only)	9	75	6800	5170
Dhaka Sadar Sub-division	55	3055	127200	10560
Joydebpur	16	490	12000	7300
Kaliakair	2	120	240000	160000
Kaliganj	08	1000	10700	5500
Kapasia	02	190	240	175
Sreepur	—	—	—	—
Tongi	—	—	—	—
Gazipur Sub-division	28	1800	2422940	1612975
Daulatpur	—	—	—	—
Ghior	—	—	—	—
Harirampur	—	—	—	—
Manikganj	15	117	22800	18800
Saturia	—	—	—	—
Shivalaya	2	300	1900	1600
Singair	—	—	—	—
Manikganj Sub-division	17	417	24700	20400
Lohajang	—	—	—	—
Gazaria	—	—	—	—
Munshiganj	—	—	—	—
Serajdikhan	1	75	200	7
Sreenagar	—	—	—	—
Tongibari	—	—	—	—
Munshiganj Sub-division	01	75	200	—
Araihazar	—	—	—	—
Baiddyerbazar	01	45	450	225
Bandar	—	—	—	—
Fatullah	77	92	144200	96500
Narayanganj	—	—	—	—
Rupganj	21	5250	84000	76600
Siddhirganj	—	—	—	—
Narayanganj Sub-division	99	5387	228650	173325
Monohardi	08	78	60	30
Narsingdi	11	450	10100	9800
Palash	—	—	—	—
Raipura	—	—	—	—
Shibpur	—	—	—	—
Narsingdi Sub-division	19	528	10160	9830
Dhaka District	219	11262	2813850	1827090

Source : B.B.S.



### 3. 現地建設事情についての刊行物の概要(B)

#### (1) 出版刊行物リスト

##### I. 統計書資料

1. 1986 Statistical Year Book of Bangladesh (BBS)
2. 1981 Statistical Year Book of Bangladesh (BBS)
3. Upazila Statistics Volume I - III (1979 -1984)(BBS)
4. Dhaka District Statistics 1983 (BBS)
5. Chittagong District Statistics 1983 (BBS)
6. Zila Statistics 1986 Bogra Region (BBS)
7. Bangladesh Census of Manufacturing Industries Summary Report: 1979 - 1980 (BBS)
8. Foreign Trade Statistics of Bangladesh (1982-83 1983-84) 1985.10(BBS)
9. Economic Trends (Vol.XI) 1986.11 (Statistics Dept. Bangladesh Bank)
10. Balance of Payments 1985.10-12 (SDBB)
11. Bangladesh Bank Bulletin 1986.7 (SDBB)
12. Scheduled Banks Statistics 1986.1-3 (SDBB)
13. Selected Economic Indicators 1986.10.4 (Dept. of Research Bangladesh Bank)
14. " 1986.10.18 (DRBB)
15. " 1986.11.15 (DRBB)
16. " 1986.11.22 (DRBB)

II 地図・法規

17. Small Atlas of Bangladesh - Mauzas & Mahall of Dhaka District 1985.10 (BBS)
  18. Mauzas & Mahallahs of Chittagong H.T. District 1986.8 (BBS)
  19. The Map of Bangladesh (published with the courtesy of Surveyor General of Bangladesh)
  20. Bangladesh in Maps (Univ. of Dhaka) 1981.5
  21. The Building Construction Act & Rules
  22. Development Strategy for Banglades, 1986, M.K. Alamgir (Nat'l Inst. of Local Gov't Dhaka)
- III. その他単行本、報告書
23. Bangladesh Economic Survey 1985-6 Ministry of Finance, 1986-7
  24. Land Use Planning in Bangladesh, A.K.M. Kamaluddin Choudhury (N.I.L.G.)
  25. List of Projects of Third Five Year Plan 195-90, Planning Commision, Ministry of Planning, 1986.4
  26. (Copy) Schedule of Rate Sixth edition (PWD) 1986.1.1 (With Contractor's Own Supply of Materials)
  27. (Copy) Analysis of Rates Sixth edition (PWD) 1983.12.1
  28. (N.Y.) Directory of Selected Industrial Products, Ministry of Industries & Commerce, Dept. of Industries
  29. Local Government in Bangladesh

30. Bangladesh A Traveller's Guide Don Yeo

31. How to Build a Nice Home

32. Estimating, Costing & Specification in Civil Engineering

(2) 情報及び刊行物の入手方法

: 現地聴き取り調査による。調査対象は p. 26 参照。

WHERE CAN WE LOCATE THIS INFORMATION & PUBLICATIONS:

- 1) **General economic conditions statistical information.**  
(eg. Gross Domestic Product, Inflation, Exchange Rate, Employment Rate, Wage Rate, Interest Rate, Industrial Production Index, Consumer Price Index, etc.)

G(GOV'T) - Bangladesh Bureau of Statistics

- 2) **Construction industry statistical information.**  
(eg. Ratio of Public/Private Construction Activities, Materials Prices, Employment in the Construction Industry, Wage Rates)

G(GOV'T) - Bangladesh Bureau of Statistics

- 3) **Construction cost statistical information.**  
(eg. Past records of Construction Costs, Price Book)

G(GOV'T) - P.W.D. Schedule

- 4) **Publications of guidelines for procurement of public projects.**  
(eg. Standard Conditions of Contract, Standard Method of Measurement for Building Works, Public Service Standing Order)

G(GOV'T) - B.D. Form No. 2911

#### 4. 実績コスト調査 (F)

(1) 延床面積当り建築単価及び工期

: 現地聴き取り調査による。調査対象は P. 26 参照。

##### Local Construction Cost per m<sup>2</sup> & Estimated Construction Period

It is assumed that the construction methods and the buildings finishings are made according to local standards. The building is 1,000 m<sup>2</sup> in size and 2 stories in height. The building includes utilities, but excludes furnishings and air-conditioning.

No. ITEM	STRUCTURE	COST/M <sup>2</sup> MONTH									
		A(L)	B(L)	C(L)	D(M)	E(S)	F(Consult)	G(GOV'T)	H(YL)		
1.	Office Building	R.C.	12,000 /m <sup>2</sup> 12 mo.	5,500 /m <sup>2</sup> 18 mo.	6,000 /m <sup>2</sup> 12 mo.	6,000 /m <sup>2</sup> 8 mo.	9,000 /m <sup>2</sup> 9 mo.	8,000 /m <sup>2</sup> 15 mo.	9,131 /m <sup>2</sup> 18 mo.	5,000 /m <sup>2</sup> 15 mo.	
"	"	Brick	Combined RC and brick built office	5,000 /m <sup>2</sup> 18 mo.	5,000 /m <sup>2</sup> 12 mo.	5,200 /m <sup>2</sup> 8 mo.	3,500 /m <sup>2</sup> 8 mo.	6,000 /m <sup>2</sup> 12 mo.	7,557 /m <sup>2</sup> 14 mo.	4,500 /m <sup>2</sup> 12 mo.	
"	"	Steel	---	5,000 /m <sup>2</sup> mo.	---	---	3,000 /m <sup>2</sup> 6 mo.	---	---	---	
2.	House	R.C.	7,000 /m <sup>2</sup> ---	6,000 /m <sup>2</sup> 18 mo.	6,500 /m <sup>2</sup> 12 mo.	5,200 /m <sup>2</sup> 9 mo.	9,000 /m <sup>2</sup> 9 mo.	6,000 /m <sup>2</sup> 10 mo.	9,131 /m <sup>2</sup> 18 mo.	5,500 /m <sup>2</sup> 15 mo.	
"	"	Brick	Combined RC and brick built office	5,500 /m <sup>2</sup> 18 mo.	5,500 /m <sup>2</sup> 12 mo.	5,500 /m <sup>2</sup> 9 mo.	3,500 /m <sup>2</sup> 5 mo.	5,000 /m <sup>2</sup> 15 mo.	7,557 /m <sup>2</sup> 14 mo.	5,000 /m <sup>2</sup> 12 mo.	
"	"	Wood	---	---	---	---	10,000 /m <sup>2</sup> 9 mo.	---	---	---	

## 5. 詳細コスト分析 (G)

: 現地聴き取り調査による。調査対象は p. 26 参照。

### (1) 仮設備価格

#### Site Facilities (Services)

No.	ITEM	APPLICATION	COST/UNIT			C(L)	F(Consult)	C(GOV'T)
			A(L)	B(L)	C(L)			
1.	Power Supply	basic monthly	50.00 /mo.	12,000 /mo.	---	---	---	---
		cost/hour	3.00 /KWH (permanent)	2.50 /KWH	4.50 /KWH (temporary)	2.75 /KWH	1.00 /KWH	
2.	Water	basic monthly	0.10 /gal	4,500 /mo.	---	---	---	---
		cost/gallon	0.08 /gal	11.00 /50 gal	35.00 /1,000 gal	---	0.011 /gal	
3.	Telephone	basic monthly	60.00 /mo.	5,000 /mo.	---	60.00 /mo. (4% sur-charge)	---	---
		local/minute	1.10 /min	1.00 /each local call	---	1.10 /call	---	---
4.	Telex	basic monthly	36,000 /mo.	---	---	28,000 /yr. (local charge-300)	---	---
		installation to site office	120,000 inst	---	---	135,000 /inst	---	---

\* Note: D(M) and E(S) companies did not respond to these questions.

(2) 仮設建物及び敷地測量

Preliminaries

It is assumed that the project site is to be located in the central area of the city and the total floor area is 3,000 m<sup>2</sup>.

No.	ITEM	UNIT	A(L)	B(L)	C(L)	D(M)	E(S)	F(CONSULT)	(G GOV'T
1.	<u>Temporary Site Office</u> Temporary site office for the Contractor and Consultant's representatives (10m x 3m).	m <sup>2</sup>	3,000.00/m <sup>2</sup>	2,700.00/m <sup>2</sup>	3,000.00/m <sup>2</sup>	---	---	2,500.00/m <sup>2</sup> (C.I. Sheet Roof)	2,530.00/m <sup>2</sup>
2.	<u>Temporary Storage Shed</u> Temporary site storage shed for construction materials (6m x 10m).	m <sup>2</sup>	2,000.00/m <sup>2</sup>	2,200.00/m <sup>2</sup>	2,000.00/m <sup>2</sup>	---	---	2,000.00/m <sup>2</sup>	2,530.00/m <sup>2</sup>
3.	<u>Temporary Enclosures</u> Barbed wire with wooden post H=1.8m at 1.8m intervals.	m	500.00/m	865.00/m	250.00/m	---	---	100.00/m	115.00/m
4.	<u>Site Survey</u> The boundaries of the plot shall be determined and marked out.	m <sup>2</sup>	5.00/m <sup>2</sup>	600.00/m <sup>2</sup>	2.00/m <sup>2</sup>	---	---	25.00/m <sup>2</sup>	---

## 6. 現行ローカル市場価格及び複合単価(H)

現地聴き取り調査による。調査対象は p. 26 参照。

### (1) 資材単価

#### Construction Materials Cost

Assumption: These prices should include the delivery and unloading costs to the specific site.

No.	ITEM	APPLICATION	PRICE / UNIT A(L)	B(L)	C (L)	D(M)	E(S)	F(ConsulE)	G(GOV'T)	H(PL)
1.	Portland Cement		2,400 /ton	2,500 /ton	2,300 /ton (dhaka)	2,400 /ton	2,500 /50kg	2,300 /ton	2,300 /ton	2,500 /ton
2.	Course aggregate	gravel	1,000 /m <sup>3</sup> (19mm down grd. incl. breaking)	1,060 /m <sup>3</sup>	800 /m <sup>3</sup> (syhet)	1,050 /m <sup>3</sup>	1,200 /m <sup>3</sup>	1,000 /m <sup>3</sup>	776.93 /m <sup>3</sup>	885 /m <sup>3</sup>
3.	Sand	river sand	350 /m <sup>3</sup> (syhet sand FM 2.8)	180 /m <sup>3</sup>	350 /m <sup>3</sup> (syhet)	360 /m <sup>3</sup>	300 /m <sup>3</sup> (medium)	500 /m <sup>3</sup>	317.84 /m <sup>3</sup> (FM 2.50)	425 /m <sup>3</sup>
4.	Reinforcement steel bars	round bar 20ø	16,000 /ton	16,500 /ton	15,500 /ton	16,000 /ton	16,000 /ton	15,500 /ton	15,000 /ton	22,000 /ton
5.	"	ribbed bar 20ø	19,000 /ton	18,500 /ton	18,000 /ton	17,500 /ton	---	18,000 /ton	---	---
6.	Brick	common brick one-brick thick	2,000 /1000 pcs.	1,800 /1000 pcs.	2,000 /1000 pcs.	3,000 /1000 pcs.	2,000 /1000 pcs.	2,000 /1000 pcs.	1,650 /1000 pcs.	1,500 /1000 pcs.
7.	"	facing bricks one-brick thick (8" x 4" x 2")	4,500 /1000 pcs.	3,000 /1000 pcs. (ceramic brick)	3,500 /1000 pcs.	3,000 /1000 pcs.	4,500 /1000 pcs. (dry press)	3,500 /1000 pcs.	3,100 /1000 pcs.	5,000 /1000 pcs.
8.	Timber	hardwood	10,000 /m <sup>3</sup> (garjan timber)	12,000 /m <sup>3</sup>	10,500 /m <sup>3</sup>	10,600 /m <sup>3</sup> (garjan timber)	10,000 /m <sup>3</sup>	20,000 /m <sup>2</sup>	12,360 /m <sup>3</sup>	30 /m <sup>3</sup>
9.	Plywood		315 /m <sup>2</sup> (13mm thick)	240 /m <sup>2</sup>	250 /m <sup>2</sup> (13mm thick)	325 /m <sup>2</sup> (19mm thick)	300 /m <sup>2</sup>	350 /m <sup>2</sup>	---	250 /m <sup>2</sup>
10.	Plaster	finish plaster	(Not available locally)	60 /m <sup>2</sup> (75mm thick)	---	---	25 /m <sup>2</sup>	350 /kg	---	---
11.	Glazing	float glass	450 /m <sup>2</sup> (5mm imported)	375 /m <sup>2</sup>	350 /m <sup>2</sup> (5mm thick)	430 /m <sup>2</sup>	325 /m <sup>2</sup>	560 /m <sup>2</sup>	---	23 /m <sup>2</sup>
12.	Paint	emulsion paint	110 /l	115 /l	110 /l	125 /l	125 /l	115 /l	92.40 /l	250 /l

\* Note: D(M) - items 1 - 7 are within Dhaka city.



(2) 資材状況

MATERIALS AND EQUIPMENT:

1) What is the standard method of procurement?

G(GOV'T) - All materials are procured by the Contractor locally and also from international markets, if necessary.

2) What materials utilized in this country are usually imported? And from what countries are they imported?

G(GOV'T) - Cement from Korea, Japan, Indonesia, Malaysia, etc.  
Coal from China, India, etc.  
Lime stone from India  
Klinker from India  
Billet from Japan

3) Are main structural materials (such as, cement, aggregate, bricks, timber, etc.) available locally?

G(GOV'T) - Yes.

4) Are there shortages of any necessary materials within this country? If so, what do you suggest as an option?

G(GOV'T) - Not at the moment, but maybe if raw materials are not sufficiently imported, in time.

5) What standards for materials and equipment are prevailing in this country?

G(GOV'T) - As per standard of A.C.E. and Bangladesh Standard Specifications.

6) Is there an index of the main structural materials for this country? If so, where can this index be acquired?

G(GOV'T) - Ministry of Commerce  
Trading Corporation of Bangladesh  
House Building Finance Corp. Dhaka

(3) - 1 勞務賃金

Situation of Labor Cost

1) "All in rates" labour items:

	B(L)	C(ML)	E(M)	F(S)	G(CTAD)	H(GOVT)
A) GUARANTEED MINIMUM WEEKLY EARNINGS						
1) Basic rate		Daily rate 30.00	Gov't rate 27.00/day	50.00	200.00	
2) Guaranteed minimum bonus (or Contractor's bonus allowance)	1 month salary			10% overhead		
B) ANNUAL EMOLUMENTS						
1) Increment weather						Covered by Labour Regula- tions of the Department of Labour and Subject to Change
2) Non-productive overtime						
3) Sick pay						
4) Trade supervision						
5) Working rule agreement						
C) OVERHEADS IN EMPLOYING LABOUR						
1) C.I.T.B. Training contribution						As a main contractor, please contract Sri Lanka In- surance Corporation Employers Provident Fund, Employees Trust Trust Fund EPF-12% ETF-3%
2) National insurance contribution						
3) Annual holiday credit		25 - 40% add				
4) Public holiday credit						
5) Severance payments and sundry costs						
6) Employers liability						

Note \* "All in rates" - A compounded rate which includes payments to operatives and the costs which arise directly from the employment of labour. Variable costs, such as travelling time or abnormal overtime, are normally excluded.

\*\* A(L), D(M) did not respond to these questions.

(3) - 2 勞務賃金

Situation of Labor Cost (cont'd)

No.	ITEM	GRADE	RATING	WAGE/DAY A(L)	C(Consult)								H(M)	
					R(L)	C(L)	D(M)	E(S)	F(Consult)	G(COVI)	H(M)			
2)	Trade Name													
1.	Common Labourer	A		80.00 /day	60.00 /day	60.00 /day	70.00 /day	50.00 /day	60.00 /day	40.00 /day	150.00 /day			
		B		60.00 /day	50.00 /day	50.00 /day	60.00 /day	45.00 /day	45.00 /day	35.00 /day	100.00 /day			
		C		50.00 /day	40.00 /day	50.00 /day	50.00 /day	40.00 /day	45.00 /day	---	75.00 /day			
2.	Carpentry	(A) Master carpenter		130.00 /day	150.00 /day	120.00 /day	120.00 /day	150.00 /day	120.00 /day	75.00 /day	290.00 /day			
		(B) Skilled helper		80.00 /day	100.00 /day	70.00 /day	80.00 /day	100.00 /day	80.00 /day	45.00 /day	150.00 /day			
		(C) Unskilled helper		60.00 /day	60.00 /day	50.00 /day	60.00 /day	60.00 /day	50.00 /day	---	80.00 /day			
3.	Masonry	(A) Master mason		120.00 /day	130.00 /day	120.00 /day	120.00 /day	150.00 /day	100.00 /day	80.00 /day	290.00 /day			
		(B) Skilled helper		80.00 /day	100.00 /day	70.00 /day	80.00 /day	75.00 /day	80.00 /day	70.00 /day	150.00 /day			
		(C) Unskilled helper		60.00 /day	60.00 /day	50.00 /day	60.00 /day	50.00 /day	40.00 /day	---	80.00 /day			
4.	Electrician	(A) Master electrician		120.00 /day	150.00 /day	120.00 /day	120.00 /day	200.00 /day	150.00 /day	---	295.00 /day			
		(B) Skilled helper		80.00 /day	100.00 /day	70.00 /day	80.00 /day	100.00 /day	80.00 /day	---	170.00 /day			
		(C) Unskilled helper		60.00 /day	80.00 /day	50.00 /day	60.00 /day	75.00 /day	50.00 /day	---	85.00 /day			

Note: Comparative Rating of Worker's Skills and Wages

Above Average..... A

Average ..... B

Below Average ..... C

(3) - 3 勞務賃金

Wage of Engineers

NO.	ITEM	WAGE/MO. A(L)	B(L)	C(L)	F(Consult)	G(GOV'T)
1.	Accountant of site office	3,500 /mo.	6,000 /mo.	5,000 /mo.	5,000 /mo.	2,280 /mo.
2.	Draftsmen	3,500 /mo.	4,000 /mo.	5,000 /mo.	3,000 /mo.	1,700 /mo.
3.	Secretary	5,000 /mo.	6,000 /mo.	5,000 /mo.	4,000 /mo.	1,700 /mo.
4.	Junior architect	6,000 /mo.	8,000 /mo.	6,000 /mo.	5,000 /mo.	3,020 /mo.
5.	Junior mechanical engineer	5,000 /mo.	8,000 /mo.	6,000 /mo.	5,000 /mo.	3,020 /mo.

\*Note: D(M) and E(S) companies did not respond to these questions.

\*Note: A(L) - Items 1 - 3 = 5 years experience

Items 4 - 5 = 2 years experience

\*Note: F(Consult) - Item 1 does not include social security and overhead. Items 2 - 5 include these items.

(4) 勞務步掛

Labour Constants

It is assumed that one working day includes 8 hours.

No.	TRADE	APPLICATION	AVERAGE-OUTPUT PER MAN-DAY							
			A(L)	B(L)	C(L)	D(M)	E(S)	F(Consult)	G(GOV'T)	H(ML)
1.	Excavation	hand excavation 2m deep foundation base	2.0 /m <sup>3</sup> /md	1.50 /m <sup>3</sup> /md -2.00 (manual)	2.0 /m <sup>3</sup> /md	2.25 /m <sup>3</sup> /md	1.0 /m <sup>3</sup> /md	2.0 /m <sup>3</sup> /md	2.255 /m <sup>3</sup> /md	1.0 /m <sup>3</sup> /md
2.	Concreting	using a mixer reinforced concrete floors	0.5 /m <sup>3</sup> /md	0.75 /m <sup>3</sup> /md -1.00	0.3 /m <sup>3</sup> /md	0.35 /m <sup>3</sup> /md	1.0 /m <sup>3</sup> /md	0.90 /m <sup>3</sup> /md	0.378 /m <sup>3</sup> /md	0.25 /m <sup>3</sup> /md
3.	Form Work	floor slab	1.0 /m <sup>2</sup> /md	1.75 /m <sup>2</sup> /md -2.00	1.5 /m <sup>2</sup> /md	0.45 /m <sup>2</sup> /md	1.0 /m <sup>2</sup> /md	2.0 /m <sup>2</sup> /md	2.124 /m <sup>2</sup> /md	2.00 /m <sup>2</sup> /md
4.	Reinforcement Steel Work	columns steel fixing	0.15 /t/md	0.100 /t/md -0.125	0.1 /t/md	0.06 /t/md	1.0 t/md	0.10 /t/md	0.089 /t/md	0.20 /t/md
5.	Brick Work	one brick wall common bricks	1.25 /m <sup>2</sup> /md	5.00 /m <sup>2</sup> /md -7.00	2.5 /m <sup>2</sup> /md	1.50 /m <sup>2</sup> /md	1.0 /m <sup>2</sup> /md	3.0 /m <sup>2</sup> /md	2.55 /m <sup>2</sup> /md	3.0 /m <sup>2</sup> /md
6.	Plastering to Wall	20mm thick	2.50 /m <sup>2</sup> /md	4.50 /m <sup>2</sup> /md -5.00	4.0 /m <sup>2</sup> /md	3.00 /m <sup>2</sup> /md	1.0 /m <sup>2</sup> /md	3.0 /m <sup>2</sup> /md	4.14 /m <sup>2</sup> /md	5.00 /m <sup>2</sup> /md

## 7. 参照用索引 (Z)

### (1) 参照刊行物

1. Economic Trends	Volume XI 1986
2. Bangladesh Economic Survey	1985/86
3. Statistical Yearbook of Bangladesh	1986
4. How to Build a Nice Home	
5. Dhaka District Statistics	1983
6. ZILA Statistics	1986

### (2) 現地調査対象者リスト

#### BANGLADESH QUESTIONNAIRE COMPANY LIST

A(L)	Concord Engineers & Construction Ltd.
B(L)	The Engineers Ltd.
C(L)	New Generation Construction
D(M)	Rana Construction Co., Ltd.
E(S)	Omar & Sons Ltd.
F(Cons)	Architect & Engineer Ltd.
G (Gov't)	Public Works Department (P.W.D.)
H(L)	Bengal Development Corporation

L = Large-size company  
M = Medium-size company  
S = Small-size company  
Cons = Consultant



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