

LOCAL GOVERNMENT ENGINEERING DEPARTMENT HOUSING PROGRAMME IN HAZARD-AFFECTED AREAS OF BANGLADESH,

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Introduction

The floods of 1987-88 and the cyclone of 1991 hammered the backbone of our national economy as well as our development. The 1988 flood alone destroyed about 1.25 million houses and twice as many were partially damaged. The 1991 cyclone destroyed a further 1.63 million homes.

As a result, the government started the project "Reconstruction of Rural Housing in flood affected areas of Bangladesh" in 1988. The Ministry of LGRD and Cooperatives started the project in collaboration with UNDP and UNCHS and expanded it after the 1991 cyclone. The Local Government Engineering Department (LGED) is now continuing the programme with a light to provide better housing in natural disaster areas by constructing houses with improved and durable building materials.

LGED has developed its own model house for the future housing programme. That model is now being constructed experimentally by implementing NGOs and CBOs. It is clear that the impacts of natural hazards can be reduced to a considerable extent by providing better housing.

Objectives of Programme

- I. To construct 13,500 houses in the first phase. 10,500 of these will be in flood-affected areas and 3,000 in cyclone-affected areas. It is mentioned here that Grameen Bank also constructed 5,257 houses under this project.
- II. To demonstrate and establish an improved (or sustainable) housing loan programme targeted at the rural poor.
- III. To establish Building Materials Production Centres in the project area.
- IV. Research & Development of improved low-cost building materials for flood mitigating and cyclone resistant applications.

The following tables compare the different models which have been used by 19 implementing agencies working in 23 Districts during this programme.

**Housing Model being constructed
in the natural hazard areas
LGED Models**

Sl. No.	Type	Materials	Area	Unit cost per house	Cost/sq.m
1.	LGED Model 10A (Semi-pacca) structure	Precast prefabricated RCC Frame single beam length model plan -precast ferro-cement slab one Piece roof - Tana mat wall - Taria Door Window	125 sqft 11.60 sqm	Tk. 18,000	Tk. 1,552
2.	Model 10-B (pucca structure)	- Precast prefabricated RCC frame - Ferrocement panel slab roof, 2 pieces roof - 3" brick wall - Timber door + steel window	125 sqft 11.60 sqm	Tk. 23,660	Tk. 2,040
3.	Model 10-C (Pucca House)	- Precast RCC footings, columns, grade beams - 2 Piece cast insitu roof slab - 3" brick wall with flash pointing - Timber door + steel window	140 sqft 13.00 sqm	Tk. 19,500	Tk. 1,500

**Housing Model being constructed
in the natural hazard areas
CBOs/NGOs Model**

Sl. No.	Type	Materials	Area	Unit cost per house	Cost/sq.m
1.	LDM Model	-6 MS pillar, steel truss -CI sheet roofs, bamboo walls	126 sqft 11.71 sq.m.	Tk. 16,000	Tk. 1,366
2.	General model (Grameen Bank Model)	6 RCC pillar, CI sheet roff, timber turss, Bamboo walls	126 sqft 11.71 sq.m.	Tk. 16,000- 16,500	Tk. 1,366 - 1,409
3.	BRDB/Ahs ania model	4-RCC pillars Beams, RCC salb, bamboo walls	126 sqft 11.71 sq.m.	Tk. 16,500	Tk. 1,409
4.	HBRI	4 RCC pillars, RCC beams, ferro-cement courrugated sheet, RCC roof, split bamboo walls	120 sqft 11.15 sq.m.	Tk. 15,000	Tk. 1,345
5.	DOC/BJMS S Model House (Special model)	- 9 RCC pillars, Timber truss, CI sheet, 5" brick wells	200 sqft 18.58 sq. m.	Tk. 29,525	Tk. 1,589

**Housing Programme by LGED in Natural Hazard Areas
(Flood Affected Areas)**

Sl No	Implementing agency	District	No of houses constructed	New houses after recovery of funds
1.	BRDB	Fardipur Rajbari Jamalpur	566	-
2.	RDA, Bogra	Bogra	100	7
3.	Dhaka Ahsania Mission Gaibandeh		454	5
4.	Comilla Proshika	B. Baria Chandpur Kishoregonj	855	1
5.	EDM	Sirajgonj Sylhet Natore	905	-
6.	MASS	Manikgonj	100	-
7.	UTOB	Sylhet	191	-
8.	RADOL	Sherpur Tangail	272	27
9.	Jagorani Chakra	Magura	218	3
10.	Swanirvar Bangladesh	Chandpur	262	12
11.	RIC	Norshingdi	125	-
12.	CDS	Natore	50	3
13.	TSP	Pubna	200	5
14.	ETDA	Faridpur	300	16
	TOTALS	18 Dist	4590	79

Housing programme by LGED in Natural Hazard Areas (Cyclone Affected Area)

Sl No	Implementing Agency	District	No of Houses constructed	New houses after recovery of funds
1.	BRDB	Chittagong (Anwara)	436	-
2.	DOC	Chittagong Sadar	51	-
3.	Dhaka Ahsania Mission	Chittagong Banshkhali	341	5
4.	Gonoshasthaya Kendra Cox's Bazaar	Cox's Bazaar	113	-
5.	SSF	Noakhali	699	10
6.	JBP	Bhola	500	70
7.	DORP	Laxmipur	350	3
	TOTAL	5 Dist	2603	88

GRAND TOTAL (Flood and Cyclone) :

19 CBOs/NGOs

23 Dist

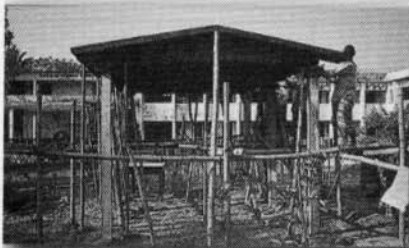
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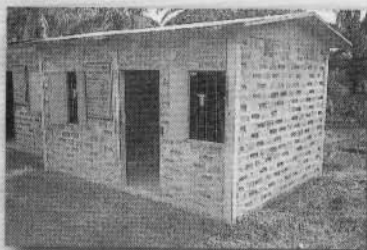
Conclusions

We in LGED hope for the good days for the people by providing better living environment. But how? The answer is this:

- By providing technically sound houses to the poor villagers which can resist cyclone and flood except the highest magnitude one like 1991;
- By providing cyclone shelter/multipurpose shelter;
- By providing earthen killas (mounds)
- Providing infrastructure;
- Providing plantations which will reduce wind speed as well as stop erosion of roads and embankments.



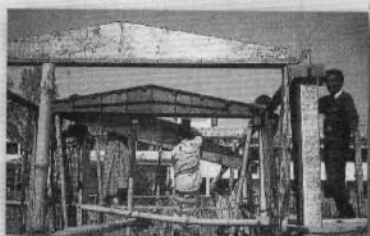
Fixing slab plates with beam side plates



Low cost house Model - 10C

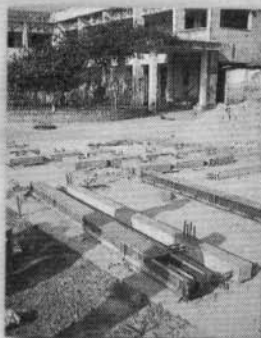


Fixing beam base plate with coupling



Fixing beam side plate to beam base plate

LGED



Precast RCC posts



Placing footing base to foundation trench



Fixing coupling at pillar top end

A PROMISE FOR NATION BUILDING