

## Distribution of Houses by Predominant Materials of Roof and Wall and Level of Damage Risk

Table No. : UP 57

State : UTTAR PRADESH

GORAKHPUR

Wall / Roof		Census Houses		Level of Risk under								
		No. of Houses	%	EQ Zone				Wind Velocity m/s				Flood Prone Area in %
				V	IV	III	II	55 & 50	47	44 & 39	33	
				Area in %				Area in %				
					60.0	40.0		6.6	93.4			63.5
WALL												
A1 - Mud & Unburnt Brick Wall	Rural	98,662	11.0									
	Urban	10,293	1.1									
	Total	108,955	12.1		H	M		VH	H			VH
A2 - Stone Wall not packed with mortar	Rural	9,211	1.0									
	Urban	4,331	0.5									
	Total	13,542	1.5		H	M		H	M			VH
Total - Category - A		122,497	13.7									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	525,621	58.6									
	Urban	142,404	15.9									
	Total	668,025	74.5		M	L		H	M			H/M
Total - Category - B		668,025	74.5									
C1 - Concrete Wall	Rural	5,347	0.6									
	Urban	1,975	0.2									
	Total	7,322	0.8		L	VL		L	VL			L/VL
C2 - Wood wall	Rural	1,716	0.2									
	Urban	355	-									
	Total	2,071	0.2		L	VL		VH	H			H
Total - Category - C		9,393	1.0									
X - Other Materials	Rural	84,819	9.5									
	Urban	11,527	1.3									
	Total	96,346	10.8		VL	VL		VH	H			VH
Total - Category - X		96,346	10.7									
TOTAL HOUSES*		896,261										

<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	185,879	20.7									
	Urban	22,532	2.5									
	<b>Total</b>	<b>208,411</b>	<b>23.2</b>		M	L		VH	VH			VH
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	76,262	8.5									
	Urban	12,402	1.4									
	<b>Total</b>	<b>88,664</b>	<b>9.9</b>		M	L		H	M			H
<b>R3 - Flat Roof</b>	Rural	463,235	51.7									
	Urban	135,951	15.2									
	<b>Total</b>	<b>599,186</b>	<b>66.9</b>	Damage Risk as per that for the Wall supporting it								
<b>TOTAL HOUSES*</b>		<b>896,261</b>										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 527 mm

### Housing Category : Wall Types

**Category - A :** Buildings in field-stone, rural structures, unburnt brick houses, clay houses

**Category - B :** Ordinary brick building; buildings of the large block & prefabricated type, half-timbered structures, building in natural hewn stone

**Category - C :** Reinforced building, well built wooden structures

**Category - X :** Other materials not covered in A,B,C. These are generally light.

**Notes :** 1. Flood prone area includes that protected area which may have more severe damage under failure of protection works. In some other areas the local damage may be severe under heavy rains and choked drainage.

2. Damage Risk for wall types is indicated assuming heavy flat roof in categories A, B and C (Reinforced Concrete) building

3. Source of Housing Data : Census of Housing, GOI, 2011

### Housing Category : Roof Type

**Category - R1 -** Light Weight (Grass, Thatch, Bamboo, Wood, Mud, Plastic, Polythene, GI Metal, Asbestos Sheets, Other Materials)

**Category - R2 -** Heavy Weight (Tiles, Stone/Slate)

**Category - R3 -** Flat Roof (Brick, Concrete)

EQ Zone V : Very High Damage Risk Zone (MSK > IX)

EQ Zone IV : High Damage Risk Zone (MSK VIII)

EQ Zone III : Moderate Damage Risk Zone (MSK VII)

EQ Zone II : Low Damage Risk Zone (MSK < VI)

Level of Risk : VH = Very High; H = High;

M = Moderate; L = Low; VL = Very Low

\* Total No.of Houses excluding Vacant/Locked Houses